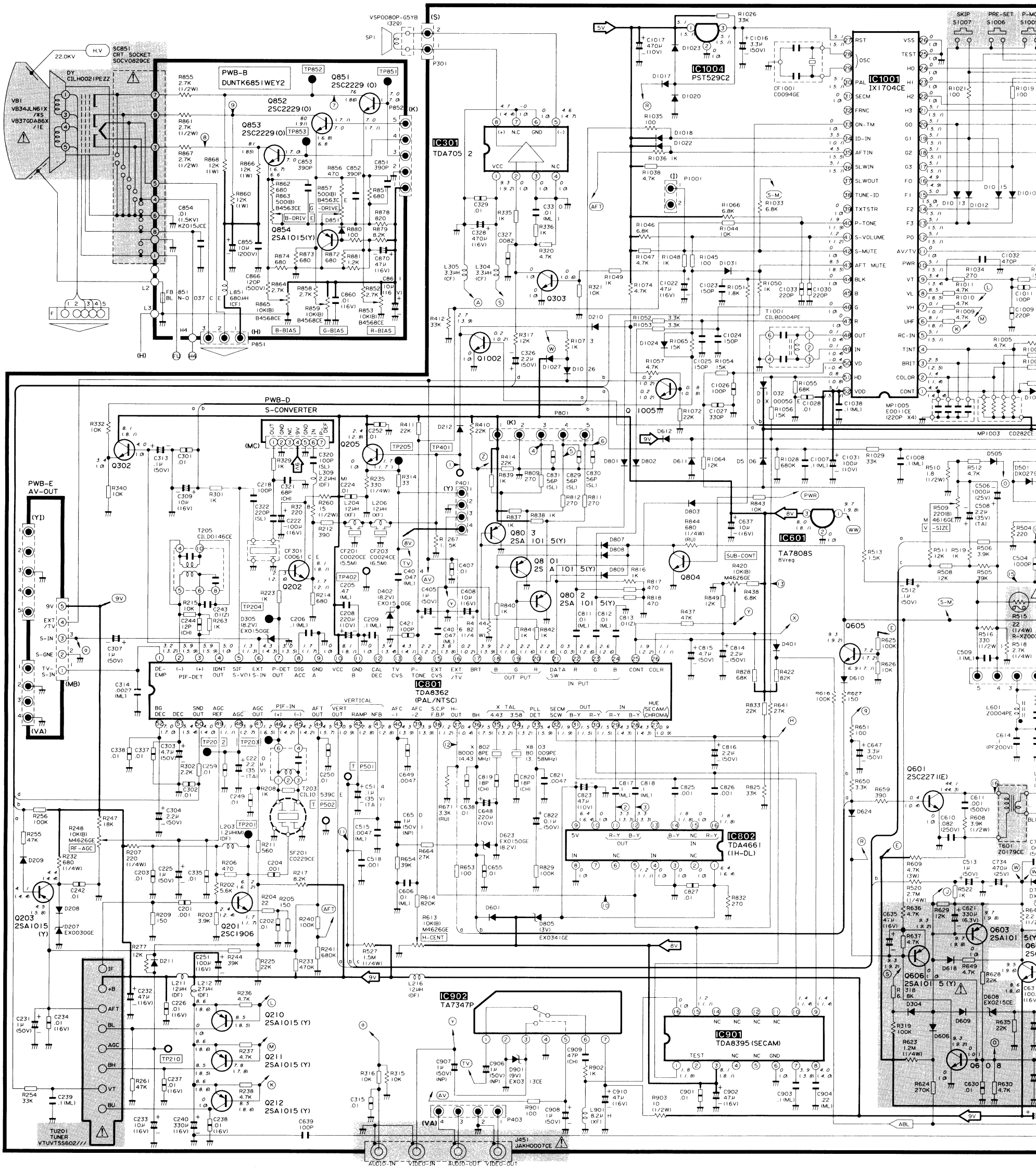
SHARP 1420/14B-SC

MODEL

SERVICE MANUAL

SHARP COLOUR TELEVISION


PWB-B
DUNTK6851WEY2
PWB-D
S-CONVERTER
PWB-E
AV-OUT
IC1004
PST529C2
IC1001
IX1704CE
IC301
TDA7052
IC801
TDA8362
(PAL/NTSC)
IC802
TDA4661
(1H-DL)
IC902
TA7347P
IC901
TDA8395 (SECAM)
IC601
TA7808S
8Vreg
Q1005
Q1002
Q303
Q205
Q302
Q202
Q203
2SA1015
(Y)
Q201
2SC1906
Q210
2SA1015 (Y)
Q211
2SA1015 (Y)
Q212
2SA1015 (Y)
Q601
2SC2271(E)
Q603
2SA101
Q606
2SA101
TU201
TUNER
VTUVTSS602///
SC851
CRT SOCKET
SOCV0829CE
DY
CILH0021PEZZ
VB1
VB34JLN61X
VB37GDA86X
22.0KV
H.V
SP1
VSP0080P-G5YB
(32Ω)
P301
P851
P852
P801
P401
P1001
J451
JAKH0007CE
AUDIO-IN
VIDEO-IN
AUDIO-OUT
VIDEO-OUT
SKIP
S1007
PRE-SET
S1006
P-MO
S1004
MP1003
C0282CE
MP1005
E0011CE
(220P X4)
T1001
CILB0004PE
T205
CILD0146CE
T203
CILI0539CE
T601
Z0179CE
L601
Z0004PE
CF1001
C0094GE
CF301
C0061CE
CF201
C0020CE
(5.5M)
CF203
C0024CE
(6.5M)
SF201
C0229CE
D1001
5
D1010
15
D1012
13
D1023
D1017
D1020
D1018
D1022
D1031
D210
D1024
D1027
D10
26
D212
D802
D611
D612
D801
D803
D807
D808
D809
D805
(3V)
EX0341GE
D623
EX0150GE
(8.2V)
D402
(8.2V)
EX015
OGE
D305
(8.2V)
EX0150GE
D901
(9V)
EX03
13CE
D209
D208
D207
EX0030GE
D211
D401
D610
D624
D304
D609
D606
D608
EX0215CE
D618
D505
D501
DX0279
Q804
Q805
Q801
Q802
Q803
Q401
Q402
Q403
Q404
Q405
Q406
Q407
Q408
Q409
Q410
Q411
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Q426
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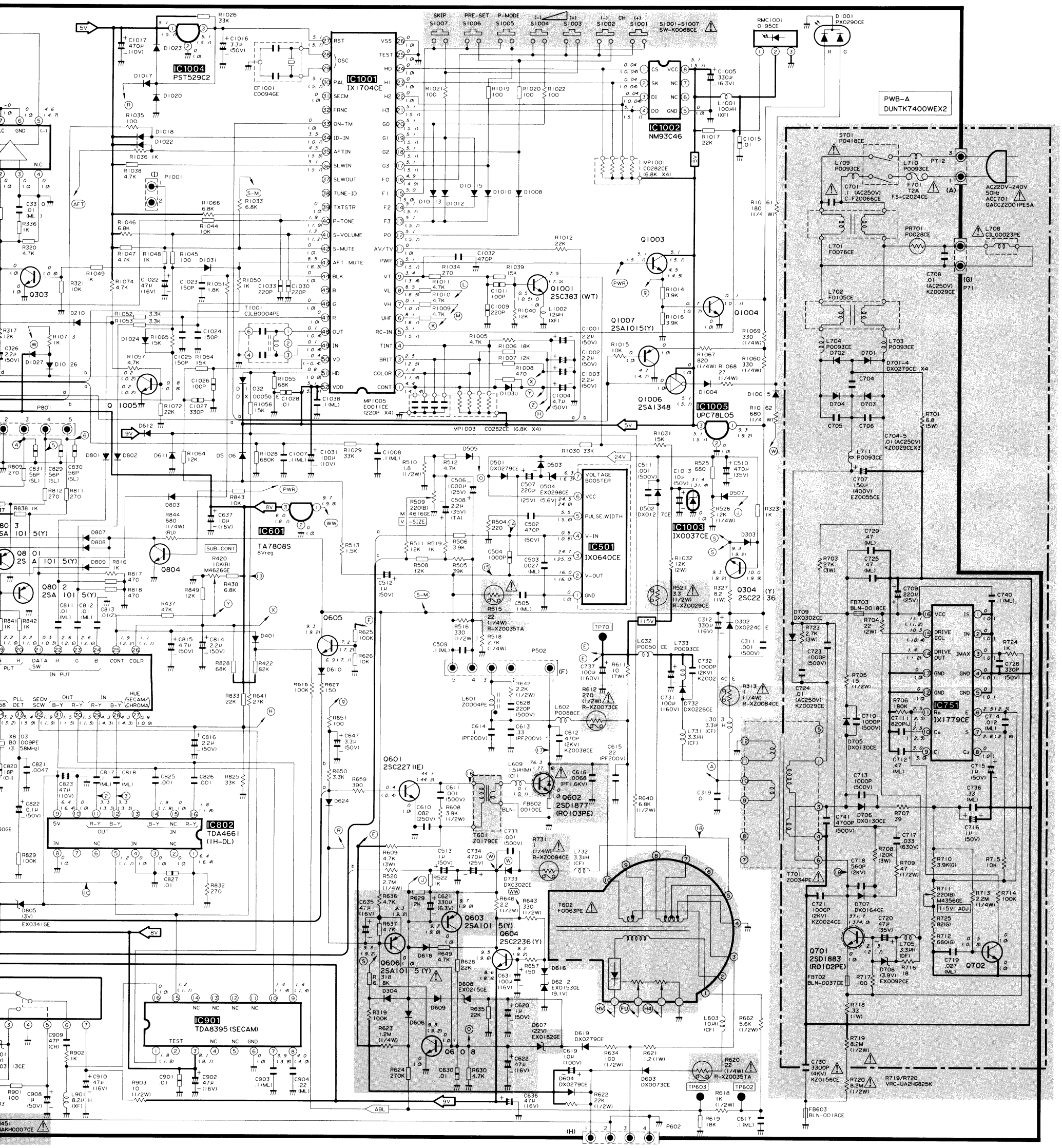
Q428
Q429
Q430
Q431
Q432
Q433
Q434
Q435
Q436
Q437
Q438
Q439
Q440

VISION MODEL 14B-SC SCHEMATIC DIAGRAM


PWB-A
DUNTK7400WEX2
IC1004
PST529C2
IC1001
IX1704CE
IC1002
NM93C46
IC1003
IX0037CE
IC501
IX0640CE
IC601
TA7808S
8Vreg
IC1005
UPC78L05
IC802
TDA4661
(1H-DL)
IC901
TDA8395 (SECAM)
IC751
IX1779CE
Q1001
2SC383 (WT)
Q1003
Q1004
Q1005
Q1006
2SA1348
Q1007
2SA1015(Y)
Q303
Q304
2SC22 (Y)
Q601
2SC2271(E)
Q602
2SD1877
(R0103PE)
Q603
2SA101 5(Y)
Q604
2SC2236(Y)
Q605
Q606
2SA101 5(Y)
Q608
Q701
2SD1883
(R0102PE)
Q702
Q804
T1001
CILB0004PE
T601
Z0179CE
T602
F0063PE
T701
Z0034PE
L1001
100μH (XF)
L1002
12μH (XF)
L601
Z0004PE
L602
P0088CE
L609
1.5μH(M) (CF)
L632
P0050 CE
L733
P0093CE
L731
3.3μH (CF)
L732
3.3μH (CF)
L603
10μH (CF)
L701
F0076CE
L702
F0105CE
L703
P0093CE
L704
P0093CE
L709
P0093CE
L710
P0093CE
L711
P0093CE
S701
P0418CE
F701
T2A
FS-C2024CE
PR701
P0028CE
D1001
PX0290CE
RMC1001
0195CE
S1001-S1007
SW-K0068CE
SKIP S1007
PRE-SET S1006
P-MODE S1005
(-) S1004
(+) S1003
(-) CH (+) S1001
MP1001
C0282CE (6.8K X4)
MP1003
C0282CE (6.8K X4)
MP1005
E0011CE (220P X4)
CF1001
C0094GE
FB602
0010CE
FB603
BLN-0018CE
FB702
BLN-0037CE
FB703
BLN-0018CE
D1030
D1031
D1032
0005G
D1033
D1034
D1035
D1036
D1037
D1038
D1039
D1040
D1041
D1042
D1043
D1044
D1045
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D1062
D1063
D1064
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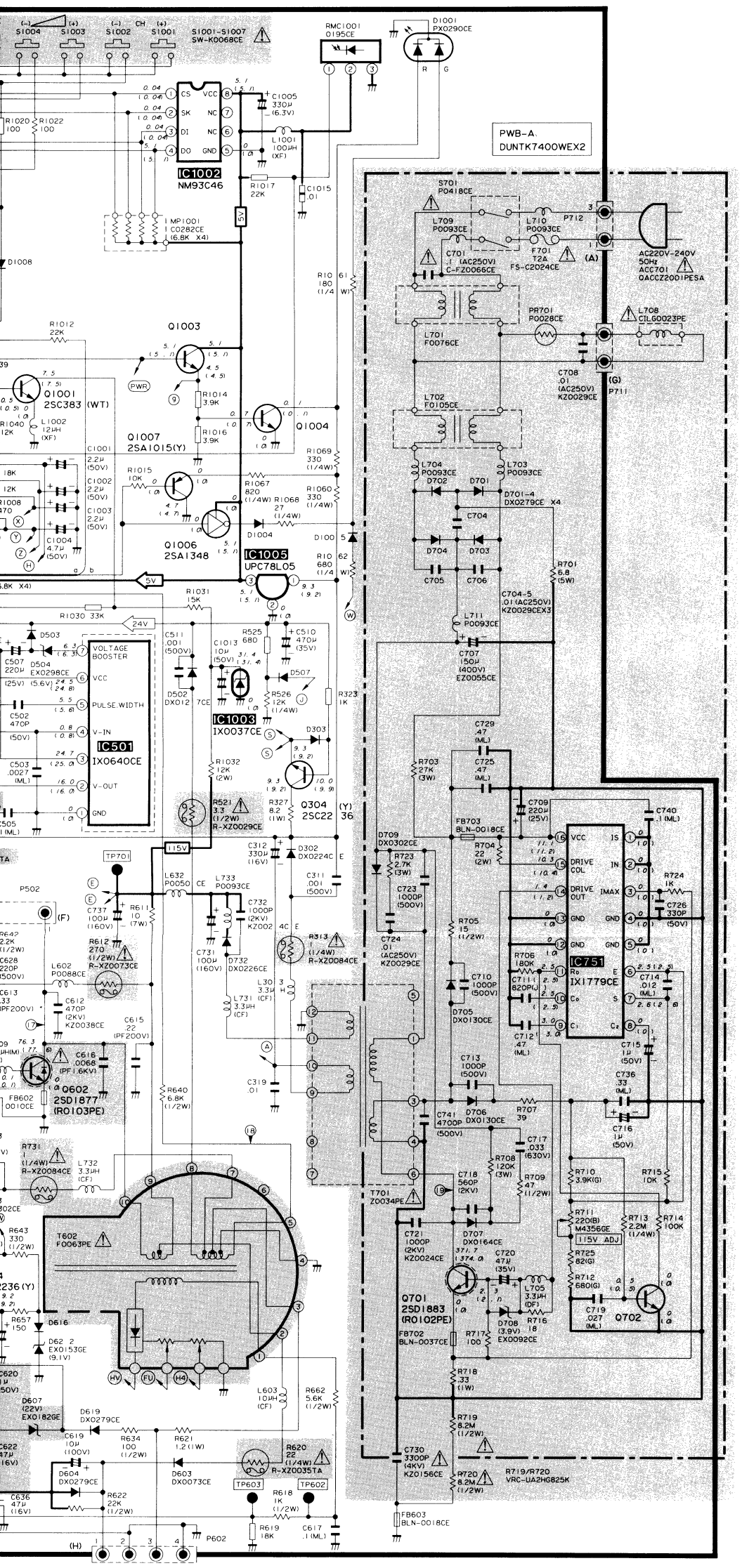
D1067
D1068
D1069
D1070
D1071
D1072

TIC DIAGRAM



⑦ 90 Vp-p (H)

⑧ 68Vp-p (H)

⑨ 84 Vp-p (H)

⑩ 6.2 Vp-p (H)

170 Vp-p (H)

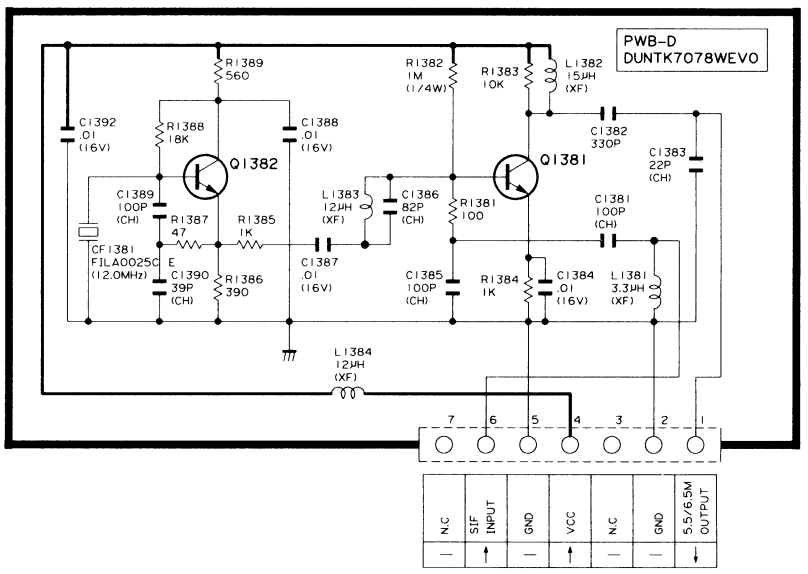
⑰ 950 Vp-p (H)

⑱ 150 Vp-p (H)

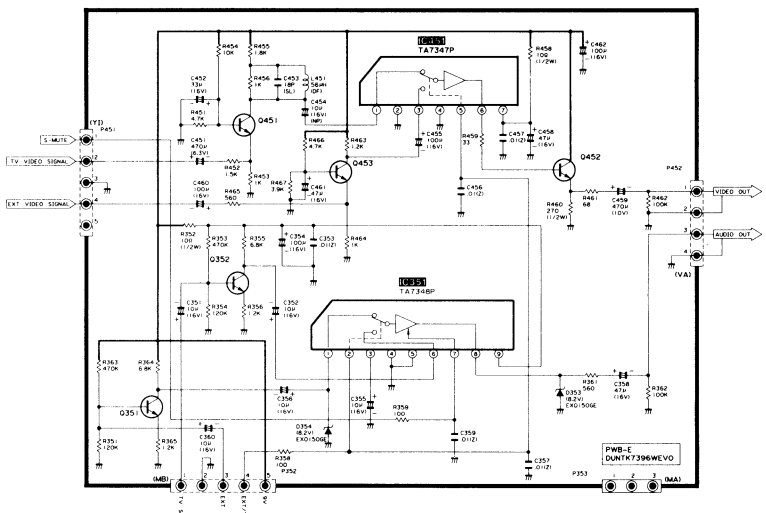
⑲ 540 Vp-p

e there may be a slight difference from yours.

SIF–CONVERTER
DUNTK7078WEV0



AV–UNIT
DUNTK7396WEV0



NOTES

Voltage Measurement Conditions

1. Voltages in parenthesis measured with no signal.

2. Voltage without parenthesis measured with 3000µV B & W or Colour Signal.

3. All the voltages in each point are measured with Vacuum Tube Volt Meter.

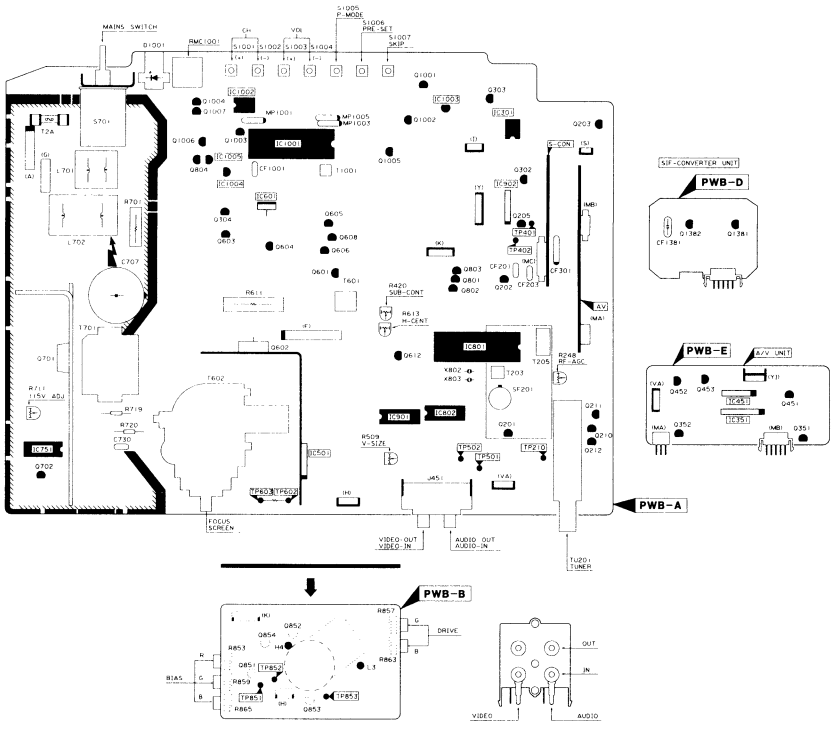
Waveform Measurement Conditions

1. Colour bar generator signal of 1.8V peak to peak applied at Base of Q205.

2. Approximately 4V AGC bias.

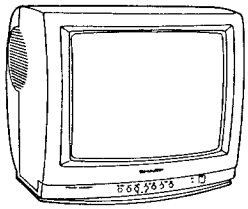
Parts marked with "⚠" ( ) are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

CHASSIS LAYOUT

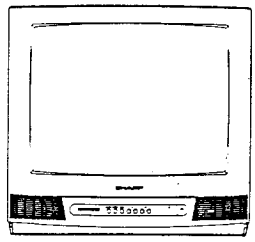


SHARP SERVICE MANUAL SERVICE-ANLEITUNG

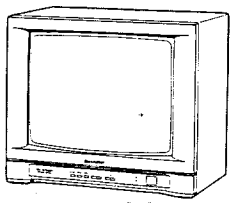
S04E714DSC///



14D-SC Ⓐ



20B-SC Ⓐ



14B-SC Ⓐ

COLOUR TELEVISION
FARBFERNSEHGERÄT
PAL-Ⓐ Chassis

MODELS MODELL
14D-SC Ⓐ
14B-SC Ⓐ
20B-SC Ⓐ

In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified should be used.

Im Interesse der Benutzer-Sicherheit (in einigen Länder durch Sicherheitzvorschriften gefordert) sollte dieses Gerät wieder auf seinen ursprünglichen Zustand eingestellt und nur die vorgeschriebenen Teile verwendet werden.

The model 14D-SC Ⓐ is based on model 14D-SC and uses the PAL-Ⓐ chassis instead of the SP-30 chassis.

The models 14B-SC Ⓐ and 20B-SC Ⓐ are based on models 14B-SC and 20B-SC, respectively, and use the PAL-Ⓐ chassis instead of the 14B chassis.

The TV sets equipped with the PAL- Ⓐ chassis have the following labels attached near the model label on the rear cabinet. Be sure to confirm these labels.

Das Modell 14D-SC Ⓐ basiert auf dem Modell 14D-SC und verwendet anstatt von Chassis SP-30 das Chassis PAL-Ⓐ.

Die Modelle 14B-SC Ⓐ und 20B-SC Ⓐ basieren auf den Modellen 14B-SC und 20B-SC und verwenden anstatt von Chassis 14B das Chassis PAL-Ⓐ.

Die Fernsehgeräte, welche mit dem Chassis PAL- Ⓐ ausgestattet sind, haben folgende Aufkleber in der Nähe des Typenetiketts auf der Geräterückseite angebracht. Stellen Sie unbedingt sicher, daß diese Aufkleber vorhanden sind.

14D-SC Ⓐ

NOTE FOR SERVICE
Please refer to the Service Manual 14D-SC Ⓐ when you repair this TV.
TCAUZ 0004 PEZZ

14B-SC Ⓐ

NOTE FOR SERVICE
Please refer to the Service Manual 14B-SC Ⓐ when you repair this TV.
TCAUZ 0006 PEZZ

20B-SC Ⓐ

NOTE FOR SERVICE
Please refer to the Service Manual 20B-SC Ⓐ when you repair this TV.
TCAUZ 0003 PEZZ

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WARNING

The chassis in this receiver is partially hot. Use an isolation transformer between the line cord plug and power receptacle, when servicing this chassis.
To prevent electric shock, do not remove cover. No user — serviceable parts inside. Refer servicing to qualified service personnel.

E2

WARNUNG

Das Chassis dieses Empfangsgerätes steht teilweise unter hohen Spannungen. Bei Wartungsarbeiten an diesem Chassis muß deshalb ein Isolationstransformator zwischen dem Netzkabelstecker und der Steckdose verwendet werden.
Gerätes befinden sich keine von Benutzer einstellbaren Teile. Wartung und Reparaturarbeiten müssen qualifiziertem Service-Personal überlassen werden.

G2

SPECIFICATIONS

14D-SC

Convergence ..... Self Converging System
Focus ..... Quadra-Potential Electrostatic
Sweep Deflection ..... Magnetic

Intermediate Frequencies
- Picture IF Frequency ..... 38.9 MHz
- Sound IF Carrier Frequency .... 32.4/33.4 MHz
- Colour Sub-Carrier Frequency ..... 34.47 MHz

Power Input ..... 200 — 240 V AC 50/60 Hz
Power Consumption ..... 68 W

Audio Power Output Rating ... 2.8 W (at Max.)
Speaker
- Size ..... 10 cm Round Dynamic Type x 1 pc.
- Voice Coil Impedance ..... 16 ohms at 400 Hz

Aerial Input Impedance
- VHF/UHF ..... 75 ohm Unbalanced

Receiving System ..... CCIR SECAM/PAL B, G, OIRT SECAM D, K
NTSC 3.58/4.43 MHz (AV Input Only)

Tuning Ranges
- VHF- Channels
  - E2 (48.25 MHz) thru E12 (224.25 MHz)
  - OI1 (49.75 MHz) thru OI12 (223.25 MHz)
  - S1 (105.25 MHz) thru S41 (463.25 MHz)
- UHF- Channels
  - E21 (471.25 MHz) thru E69 (855.25 MHz)

Dimensions
- Width ..... 377.0 mm
- Height ..... 322.0 mm
- Depth ..... 370.0 mm

Weight (approx.) ..... 9.4 kg
Cabinet Material ..... All Plastics

14B-SC and 20B-SC

Convergence ..... Self Converging System
Focus ..... Quadra-Potential Electrostatic
Sweep Deflection ..... Magnetic

Intermediate Frequencies
- Picture IF Frequency ..... 38.0 MHz
- Sound IF Carrier Frequency .... 32.5/31.5 MHz
- Colour Sub-Carrier Frequency ..... 33.57 MHz

Power Input
- 14B-SC ..... 220 — 240 V AC 50/60 Hz
- 20B-SC ..... 200 — 240 V AC 50/60 Hz

Power Consumption
- 14B-SC ..... 60 W
- 20B-SC ..... 84 W

Audio Power Output Rating
- 14B-SC ..... 2.3 W (M.P.O.)
- 20B-SC ..... 4.0 W (M.P.O.)

Speaker
- Size
  - 14B-SC 8 cm Round Dynamic Type x 1 pc.
  - 20B-SC 8 cm Round Dynamic Type x 2 pcs
- Voice Coil Impedance
  - 14B-SC ..... 32 ohms at 400 Hz
  - 20B-SC ..... 8 ohms at 400 Hz

Aerial Input Impedance
- VHF/UHF ..... 75 ohm Unbalanced

Receiving System ..... CCIR SECAM/PAL B, G OIRT SECAM D, K
NTSC 3.58/4.43 MHz (AV Input Only)

Tuning Ranges
- VHF- Channels
  - E2 (48.25 MHz) thru E12 (224.25 MHz)
  - OI1 (49.75 MHz) thru OI12 (223.25 MHz)
- UHF- Channels
  - E21 (471.25 MHz) thru E69 (855.25 MHz)

Dimensions
- 14B-SC
  - Width ..... 383.0 mm
  - Height ..... 322.5 mm
  - Depth ..... 385.0 mm
- 20B-SC
  - Width ..... 506.0 mm
  - Height ..... 476.0 mm
  - Depth ..... 471.0 mm

Weight (approx.)
- 14B-SC ..... 10.0 kg
- 20B-SC ..... 19.0 kg

Cabinet Material ..... All Plastics

Specifications are subject to change without prior notice.

TECHNISCHE DATEN

14D-SC

Konvergenz .... Selbstkonvergierendes System
Bildschärfe .. Quadra-Potential, elektrostatisch
Zeitablenkung ..... magnetisch

Zwischenfrequenzen
- Bild-Zwischenfrequenz ..... 39,8 MHz
- Tonträger-Zwischenfrequenz .. 32,4/33,4 MHz
- Farbhilfsträger-Frequenz ..... 34,47 MHz

Stromversorgung 200 — 240 V Netzspannung, 50/60 Hz
Leistungsaufnahme ..... 68 W

Audio-Ausgangsnennleistung .... 2,8 W (max.)
Lautsprecher
- Größe ..... 10 cm, rund, dynamischer Typ x 1
- Stimmspulen-Impedanz ..... 16 Ω bei 400 Hz

Antennen-Eingangsimpedanz
- VHF/UHF ..... 75 Ω, unsymmetrisch

Empfangssystem ..... CCIR SECAM/PAL B, G, OIRT SECAM D, K
NTSC 3,58/4,43 MHz (nur AV-Eingang)

Einstellbereiche
- VHF-Kanäle
  - E2 (48,25 MHz) bis E12 (224,25 MHz)
  - OI1 (49,75 MHz) bis OI12 (223,25 MHz)
  - S1 (105,25 MHz) bis S41 (463,25 MHz)
- UHF-Kanäle
  - E21 (471,25 MHz) bis E69 (855,25 MHz)

Abmessungen
- Breite ..... 377,0 mm
- Höhe ..... 322,0 mm
- Tiefe ..... 370,0 mm

Gewicht (ungefähr) ..... 9,4 kg
Gehäusematerial ..... ausschließlich Kunststoff

14B-SC und 20B-SC

Konvergenz .... Selbstkonvergierendes System
Bildschärfe .. Quadra-Potential, elektrostatisch
Zeitablenkung ..... magnetisch

Zwischenfrequenzen
- Bild-Zwischenfrequenz ..... 38,0 MHz
- Tonträger-Zwischenfrequenz .. 32,5/31,5 MHz
- Farbhilfsträger-Frequenz ..... 33,57 MHz

Stromversorgung
- 14B-SC ..... 220 — 240 V Netzspannung, 50/60 Hz
- 20B-SC ..... 200 — 240 V Netzspannung, 50/60 Hz

Leistungsaufnahme
- 14B-SC ..... 60 W
- 20B-SC ..... 84 W

Audio-Ausgangsnennleistung
- 14B-SC ..... 2,3 W (Musikleistung)
- 20B-SC ..... 4,0 W (Musikleistung)

Lautsprecher
Größe
- 14B-SC .. 8 cm, rund, dynamischer Typ x 1
- 20B-SC .. 8 cm, rund, dynamischer Typ x 2

Stimmspulen-Impedanz
- 14B-SC ..... 32 Ω bei 400 Hz
- 20B-SC ..... 8 Ω bei 400 Hz

Antennen-Eingangsimpedanz
- VHF/UHF ..... 75 Ω, unsymmetrisch

Empfangssystem ..... CCIR SECAM/PAL B, G, OIRT SECAM D, K
NTSC 3,58/4,43 MHz (nur AV-Eingang)

Einstellbereiche
- VHF-Kanäle
  - E2 (48,25 MHz) bis E12 (224,25 MHz)
  - OI1 (49,75 MHz) bis OI12 (223,25 MHz)
- UHF-Kanäle
  - E21 (471,25 MHz) bis E69 (855,25 MHz)

Abmessungen
- 14B-SC
  - Breite ..... 383,0 mm
  - Höhe ..... 322,5 mm
  - Tiefe ..... 385,0 mm
- 20B-SC
  - Breite ..... 506,0 mm
  - Höhe ..... 476,5 mm
  - Tiefe ..... 471,0 mm

Gewicht (ungefähr)
- 14B-SC ..... 10,0 kg
- 20B-SC ..... 19,0 kg

Gehäusematerial ..... ausschließlich Kunststoff

Technische Daten können jederzeit und ohne vorherige Benachrichtigung verändert werden.

IMPORTANT SERVICE NOTES

Maintenance and repair of this receiver should be done by qualified service personnel only.

SERVICING OF HIGH VOLTAGE SYSTEM AND PICTURE TUBE

When servicing the high voltage system, remove static charge from it by connecting a 10k ohm Resistor in series with an insulated wire (such as a test probe) between picture tube dag and 2nd anode lead. (AC line cord should be disconnected from AC outlet.)

1. Picture tube in this receiver employs integral implosion protection.
2. Replace with tube of the same type number for continued safety.
3. Do not lift picture tube by the neck.
4. Handle the picture tube only when wearing shatterproof goggles and after discharging the high voltage completely.

X-RAY

This receiver is designed so that any X-Ray radiation is kept to an absolute minimum. Since certain malfunctions or servicing may produce potentially hazardous radiation with prolonged exposure at close range, the following precautions should be observed:

1. 14D-SC Ⓐ and 14B-SC Ⓐ:
   When repairing the circuit, be sure not to increase the high voltage to more than 25.3 kV, (14D-SC Ⓐ: at beam 0 μA, 14B-SC Ⓐ: at beam 800 μA) for the set.
   20B-SC Ⓐ:
   When repairing the circuit, be sure not to increase the high voltage to more than 29.0 kV, (at beam 1100 μA) for the set.
2. 14D-SC Ⓐ and 14B-SC Ⓐ:
   To keep the set in a normal operation, be sure to make it function on 22.0 kV ± 1.5 kV (at beam 800 μA) in the case of the set. The set has been factory — Adjusted to the above-mentioned high voltage.
   20B-SC Ⓐ:
   To keep the set in a normal operation, be sure to make it function on 24.5 kV ± 1.5 kV (at beam 1100 μA) in the case of the set. The set has been factory — Adjusted to the above-mentioned high voltage.
   ∴ If there is a possibility that the high voltage fluctuates as a result of the repairs, never forget to check for such high voltage after the work.
3. Do not substitute a picture tube with unauthorized types and/or brands which may cause excess X-ray radiation.

BEFORE RETURNING THE RECEIVER

Before returning the receiver to the user, perform the following safety checks.

1. Inspect all lead dress to make certain that leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the receiver.
2. Inspect all protective devices such as non-metallic control knobs, insulating fishpapers, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacity networks, mechanical insulators etc.

WICHTIGE WARTUNGSHINWEISE

Wartung und Reparaturen in diesem Gerät dürfen von qualifiziertem Wartungstechnikern ausgeführt werden.

WARTUNG DES HOCHSPANNUNGSSYSTEMS UND DER BILDRÖHRE

Vor der Wartung des Hochspannungssystems muß zuerst die statische Elektrizität entfernt werden. Dies ist mittels Anschlusses eines 10 kΩ Widerstands in Serienschaltung mit einem isolierten Draht vorzunehmen (z.B. Prüfsonde zwischen der Bildröhre und der zweiten Anodenleitung). Das Netzkabel muß zuvor von der Netzsteckdose abgezogen werden.

1. Die Bildröhre in diesem Gerät ist mit einer Voll-Implosionsschutzfunktion versehen.
2. Um die Sicherheit zu gewährleisten, darf nur eine Bildröhre mit der gleichen Typennummer verwendet werden.
3. Die Bildröhre darf niemals am Hals hochgehoben werden.
4. An der Bildröhre darf nur dann gearbeitet werden, wenn Sie splittersicheren Augenschutz tragen und die Bildröhre zuvor von statischer Elektrizität befreit wurde.

STRAHLUNG

Dieser Receiver wurde so ausgelegt, daß jegliche Strahlung auf das absolute Minimum beschränkt wird. Da bestimmte Störungen oder Wartungsarbeiten bei längerem Aufenthalt in kurzer Entfernung gefährliche Strahlung verursachen können, müssen die folgenden Vorsichtsmaßnahmen beachtet werden.

1. 14D-SC Ⓐ und 20B-SC Ⓐ:
   Bei der Reparatur des Schaltkreises sicherstellen, daß die Geräte-Hochspannung nicht über 25,3 kV erhöht wird (14D-SC Ⓐ: bei Strahlstrom 0 μA, 14B-SC Ⓐ: bei einem Strahlstrom von 800 μA).
   20B-SC Ⓐ:
   Bei der Reparatur des Schaltkreises sicherstellen, daß die Geräte-Hochspannung nicht über 29,0 kV erhöht wird: bei einem Strahlstrom von 1.100 μA.
2. 14D-SC Ⓐ und 14B-SC Ⓐ:
   Um das Gerät im Normalbetrieb zu betreiben, sicherstellen, daß es bei 22,0 ± 1,5 kV innerhalb des Gehäuses funktioniert (bei einem Strahlstrom 800 μA). Das Gerät wurde werkseitig auf die oben aufgeführte Spannung eingestellt.
   20B-SC Ⓐ:
   Um das Gerät im Normalbetrieb zu betreiben, sicherstellen, daß es bei 24,5 ± 1,5 kV innerhalb des Gehäuses funktioniert (bei einem Strahlstrom von 1100 μA). Das Gerät wurde werkseitig auf die oben aufgeführte Spannung eingestellt.
   ∴ Wenn die Möglichkeit besteht, daß die Hochspannung aufgrund von Reparaturen schwankt, niemals vergessen, die Spannung nach der Arbeit erneut zu überprüfen.
3. Bildröhren niemals durch nicht empfohlene oder nicht zugelassenen Typen ersetzen, da diese übermäßige Strahlung abgeben können.

VOR DER RÜCKGABE DES EMPFANGSGERÄTS

Vor der Rückgabe des Empfangsgeräts an den Kunden sind folgende Sicherheitsprüfungen auszuführen:

1. Sämtliche Kabel überprüfen, um sicherzustellen, daß diese nicht eingeklemmt sind, bzw. daß keine Bauteile zwischen dem Chassis und anderen Bauteilen steckenbleiben.
2. Alle Sicherheitseinrichtungen überprüfen: nichtmetallische Regler, Isolationen, Gehäuserückseiten, Einstell- und Fachabdeckungen oder Schutzbleche, Isolations-Widerstandskapazitäts-Netzwerke, mechanische Isolatoren usw.

ADJUSTMENT PRECAUTIONS

This model's settings are adjusted in two different ways: through the I²C bus control and in the conventional analog manner. The adjustments via the I²C bus control include preset-only items and variable data.

1. Calling the service mode by the microprocessor

① Set the switch S1008 to the service mode position, and the microprocessor is put in the service mode (adjustment through the I²C bus control).
② Press the VOL-UP key on the remote controller to get ready to select the modes one by one.
③ Press the VOL-DOWN key on the remote controller to get ready to select the modes in the order opposite to the above step (2). (See SERVICE MODE)
④ Using the Λ and V keys on the remote controller, the data can be modified.
⑤ Set the switch S1008 to the normal mode (OFF) position, and the microprocessor is out of the service mode.

2. Factory presettings (EEPROM)

① Make a connection between TP1001 (pin (15) of IC1001) and GND. Now the initial preset data are written into the EEPROM.
② Once the chassis has been put together, be sure to make the connection (see 2-① above) first and then turn on the main power switch. Turning on the power without initializing the EEPROM may cause the unit to malfunction.

VORSICHTSMASSNAHMEN BEI DER EINSTELLUNG

Die Einstellungen an diesem Modell erfolgen auf zwei unterschiedliche Arten: mit der I²C-Bussteuerung bzw. mit der konventionellen Analogmethode. Die Einstellungen mit der I²C-Bussteuerung bestehen ausschließlich aus vorprogrammierten Posten und variablen Daten.

1. Abruf des Service-Modus über den Mikroprozessor

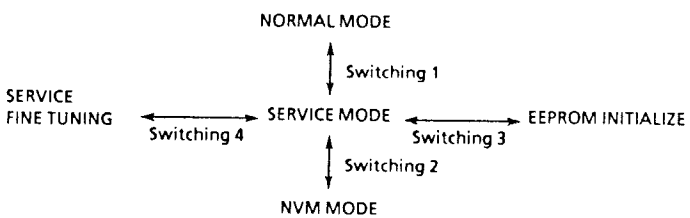
① Den Schalter S1008 in die Service-Modus-Position bringen. Der Mikroprozessor wird daraufhin in den Service-Modus geschaltet (Einstellung durch die I²C-Bussteuerung).
② Die VOL-UP Taste auf der Fernbedienung drücken, um die Modi einzeln anzuwählen.
③ Die VOL-DOWN Taste auf der Fernbedienung drücken, um die Modi in umgekehrter Reihenfolge zum obigen Schritt (2) anzuwählen. (Siehe SERVICE-MODUS)
④ Durch Benutzung der Tasten Λ und V lassen sich die Werte verändern.
⑤ Den Schalter S1008 in die Normalmodus-Position (OFF) bringen. Der Mikroprozessor wird daraufhin in den Service-Modus geschaltet.

2. Werkseinstellung (EEPROM)

① Eine Verbindung zwischen TP1001 (Stift (15) von IC1001) und Masse herstellen. Die anfänglichen Werkseinstekkdaten werden nun in den EEPROM geschrieben.
② Wenn das Chassis zusammengebaut ist, sicherstellen, daß die Verbindung (siehe 2-① oben) zuerst hergestellt und dann erst der Hauptgerät eschalter eingeschaltet wird. Das Einschalten ohne die Initialisierung des EEPROM kann eine Störung im Gerät verursachen.

■ SERVICE MODE

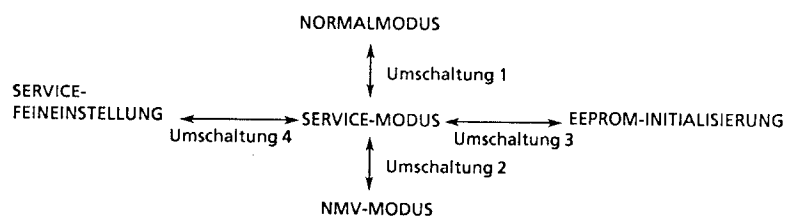
(1) Mode switching



Switching 1 : NORMAL mode ⇔ SERVICE mode ; "H" ⇔ "L" (at pin (37))
Switching 2 : SERVICE mode ⇔ NVM mode ; "H" ⇔ "L" (at pin (11))
Switching 3 : EEPROM initialize ; "H" ⇔ "L" (at pin (15))
* The initialization is made just once when the signal at pin (15) drops from "H" to "L".
* The initialization is possible only once when the main power is turned on. To initialize again, turn the main power off and then on again.
Switching 4: SERVICE mode ⇔ SERVICE FINE-TUNING mode
The PRESET key on the unit is used for this switching.

■ SERVICE-MODUS

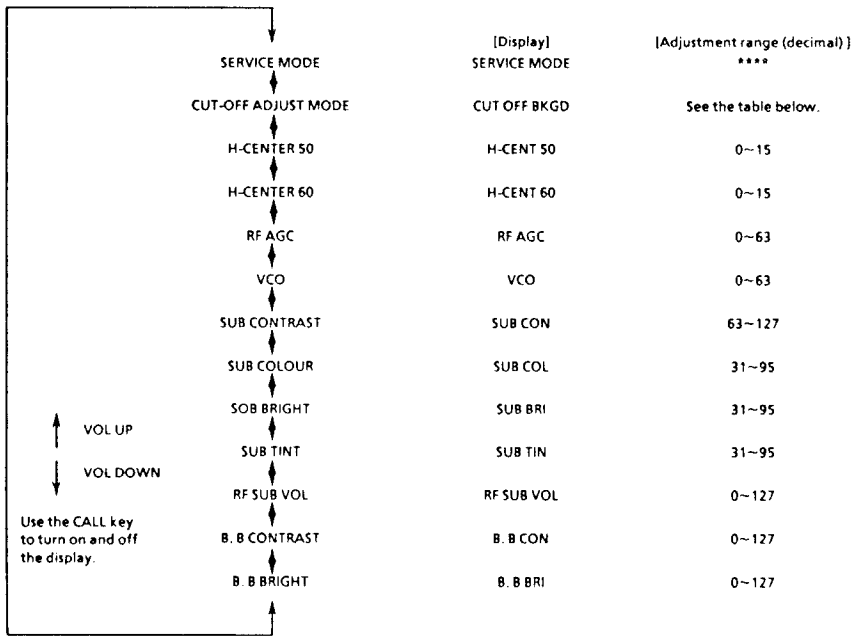
(1) Modusumschaltung



Umschaltung 1 : NORMAL-Modus ⇔ SERVICE-Modus; "H" ⇔ "L" (am Stift (37))
Umschaltung 2 : SERVICE-Modus ⇔ NVM-Modus; "H" ⇔ "L" (am Stift (11))
Umschaltung 3 : EEPROM-Initialisierung; "H" ⇔ "L" (am Stift (15))
* Die Initialisierung wird nur einmal vorgenommen, wenn das Signal am Stift (15) von "H" auf "L" abfällt.
* Die Initialisierung ist nur einmal möglich, wenn das Gerät eingeschaltet wird. Um die Initialisierung erneut vorzunehmen, muß das Gerät aus- und danach wieder eingeschaltet werden.
Umschaltung 4 : SERVICE-Modus ⇔ SERVICE-FEINEINSTEL-Modus
Zum Umschalten wird die PRESET-Taste des Geräts benutzt.

(2) SERVICE mode

a) In the SERVICE mode, the VOL-UP and VOL-DOWN keys are used to select the following adjustment items.



b) CUT-OFF ADJUST mode

Adjustment item	Data up	Data down	Adjustment range
R-CUT OFF	Key 1	Key 4	0~255
G-CUT OFF	Key 2	Key 5	0~255
B-CUT OFF	Key 3	Key 6	0~255
R-DRIVE	Key 7	Key F/B	0~63
B-DRIVE	Key 8	Key 0	0~63
HORIZONTAL CENTERING	Key 9		---

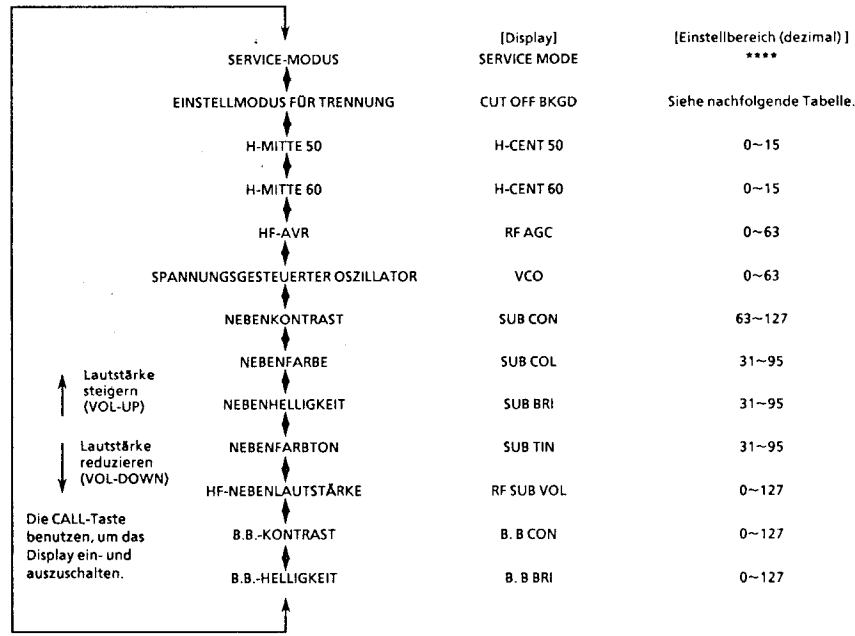
In the CUT-OFF ADJUST mode (for all the adjustments other than the horizontal centering), the contrast and brightness are adjusted as follows.

Key	CONTRAST	BRIGHT
10 +	1/64 level	32/64 level
20 +	64/64 level	32/64 level
30 +	64/64 level	64/64 level

c) Other adjustment modes
The data settings can be turned up and down using the [∧] / [∨] (DAC UP/DOWN) keys.

(2) SERVICE-Modus

a) Im SERVICE-Modus werden die VOL-UP und VOL-DOWN Tasten für die Wahl der folgenden Einstellposten verwendet.



b) TRENNUNG-Einstellmodus

Einstellposten	Zunahme der Werte	Abnahme der Werte	Einstellbereich
R-TRENNUNG	Taste 1	Taste 4	0~255
G-TRENNUNG	Taste 2	Taste 5	0~255
B-TRENNUNG	Taste 3	Taste 6	0~255
R-AKTIVIERUNG	Taste 7	Taste F/B	0~63
B-AKTIVIERUNG	Taste 8	Taste 0	0~63
HORIZONTALE BILDMITTE-EINSTELLUNG	Taste 9		---

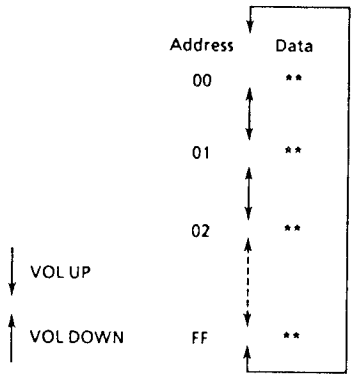
Im TRENNUNGS-Einstellmodus werden der Kontrast und die Helligkeit wie folgt eingestellt (für alle Einstellungen außer der horizontalen Bildmitte-Einstellung).

Taste	KONTRAST	HELLIGKEIT
10 +	1/64-Pegel	32/64-Pegel
20 +	64/64-Pegel	32/64-Pegel
30 +	64/64-Pegel	64/64-Pegel

c) Andere Einstellmodi
Die Nummernwerteinstellungen lassen sich durch Tasten [∧] / [∨] (DAC UP/DOWN) erhöhen oder reduzieren.

(3) NVM mode

a) The NVM mode is introduced at switching 2.
b) Using the VOL-UP/DOWN keys, the addresses are searched as follows. At a desired address, use the [∧]/[∨] (DAC UP/DOWN) keys to turn up and down the data.



(4) EEPROM initialization

At switching 3, the following data are transmitted to the EEPROM.

- Factory preset data

Item	Setting
LAST CH	CH1
LAST POWER	ON
FLACH BACK	CH1
BLUE BACK	ON
VOLUME	1/64 level
CONTRAST	64/64 level
COLOUR	32/64 level
BRIGHT	32/64 level
TINT	32/64 level
SHRPNESS	17/33 level
AFT	ALL CH ON
SKIP	ALL CH OFF
COLOUR SYSTEM	ALL CH AUTO
SOUND SYSTEM	ALL CH AUTO
SERVICE MODE	INITIAL

- SERVICE MODE reference data

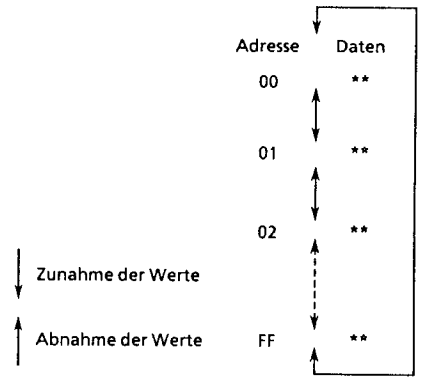
Item	Data (decimal)
R-CUT OFF	0
G-CUT OFF	0
B-CUT OFF	0
R-DRIVE	31
B-DRIVE	31
H-CENTER 50	6
H-CENTER 60	9
RF AGC	31
VCO	31
SUB CONT	85
SUB COLOUR	55
SUB BRIGHT	40
SUB TINT	58
RF SUB VOL	63
B. B CONT	41
B. B BRIGHT	40

- DELAY TIME reference data

Item	Data (hexadecimal)
PAL DELAY TIME	25H
SECAM DELAY TINE	66H
NTSC DELAY TIME	55H
B/W DELAY TIME	71H

(3) NMV-Modus

a) Der NMV-Modus wird durch Umschaltung 2 aktiviert.
b) Mit den VOL-UP/DOWN Tasten werden die Adressen wie folgt gesucht. An der gewünschten Adresse die Tasten [∧]/[∨] (DAC UP/DOWN) verwenden, um die Werte zu erhöhen oder zu reduzieren.



(4) Initialisierung des EEPROM

Bei der Umschaltung 3 werden die folgenden Daten an den EEPROM übermittelt.

- Werkseingestellte Daten

Posten	Einstellung
LETZTER KANAL	CH1
LETZTE LEISTUNG	ON
RÜCKBLENDE	CH1
BLAUER HINTERGRUND	ON
LAUTSTÄRKE	1/64-Pegel
KONTRAST	64/64-Pegel
FARBE	32/64-Pegel
HELLIGKEIT	32/64-Pegel
FARBTON	32/64-Pegel
SCHÄRFE	17/33-Pegel
FEINABSTIMM-AUTOMATIK	ALL CH ON
ÜBERSPRINGEN	ALL CH OFF
FARBSYSTEM	ALL CH AUTO
TONSYSTEM	ALL CH AUTO
SERVICE-MODUS	INITIAL

- Bezugsdaten für SERVICE-Modus

Posten	Daten (dezimal)
R-TRENNUNG	0
G-TRENNUNG	0
B-TRENNUNG	0
R-Treiber	31
B-Treiber	31
H-MITTE 50	6
H-MITTE 60	9
HF-AVR	31
SPANNUNG-SGESTEUERTER OSZILLATOR	31
NEBENKONTRAST	85
NEBENFARBE	55
NEBENHELLIGKEIT	40
NEBENFARBTON	58
HF-NEBENLAUTSTÄRKE	63
B.B.-KONTRAST	41
B.B.-HELLIGKEIT	40

- Bezugsdaten für DELAY TIME

Posten	Daten (dezimal)
PAL-VERZÖGERUNGSZEIT	25H
SECAM-VERZÖGERUNGSZEIT	66H
NTSC-VERZÖGERUNGSZEIT	55H
B/W-VERZÖGERUNGSZEIT	71H

(5) SERVICE FINE-TUNING mode

a) This mode is introduced at switching 4.
b) This mode does not work in the AV mode.
c) During this mode, the AFT system stays off [AFT DEF bit (BAH 04H D6) is set at "1".
d) The data is turned up and down once when the UP/DOWN keys on the set are first pressed. For a period of about 270m sec that follows, this up/down action is not made whether the keys are held down. After that, the up/down action is performed every 135 msec or so.
e) When the keys are released, the tuning, band, AFT-on and skip-off data are written into the EEPROM.
f) The following are effective during this mode.
- POWER key input
- Switching 1
- Switching 4

(5) SERVIVE-FEINABSTIMMUNGS-Modus

a) Dieser Modus wird durch Umschaltung 4 aktiviert.
b) Dieser Modus funktioniert im AV-Modus nicht.
c) In diesem Modus ist der automatische Feinabstimmungs-Modus deaktiviert. [AFT DEF Bit (BAH 04H D6) ist auf "1" eingestellt.]
d) Wenn die UP/DOWN-Tasten das erstemal gedrückt werden, so werden die Werte einmal erhöht und erniedrigt. Für eine Zeitraum von 270 ms wird diese auf/ab-Aktion nicht ausgeführt, ob die Taste gedrückt gehalten wird oder nicht. Danach wird die auf/ab-Aktion ca. alle 135 msec ausgeführt.
e) Wenn die Tasten losgelassen werden, werden die Daten für Abstimmung, Band, automatische Feinabstimmung (ON) und Übersprung (OFF) in den EEPROM geschrieben.
f) Die folgenden Tasten sind in diesem Modus aktiviert:
- POWER-Tasteneingabe
- Umschaltung 1
- Umschaltung 4

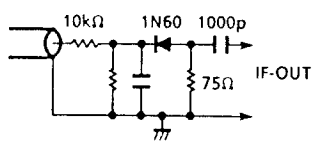
SERVICE ADJUSTMENT

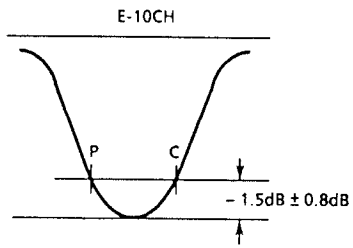
■ PIF/AFT/AGC ADJUSTMENT

1. TUNER IFT (Preset)

1. Get the tuner ready to receive the E-10CH signal, but with no signal input. Adjust the Vt and band data.
2. Connect the sweep generator's output cable to the tuner antenna.
3. Adjust the sweep generator's output level to 80 dBμV.
4. Connect the response lead (use a low-impedance probe with wave detector) to the tuner's IF output terminal. (This terminal must have the probe alone connected.)
5. Set the RF AGC voltage to 0—6 V with no contact with the waveform.
6. Adjust the tuner's IF coil to obtain the waveform as shown in right.

Note:
Be sure to keep the tuner cover in position during this adjustment.

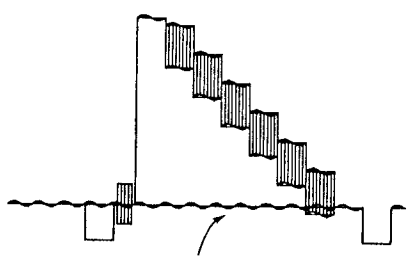




2. COIL ADJUSTMENT: T202 (VCO)

1. Receive the E-12CH (PAL COLOUR BAR) signal. If this signal is not available, receive an E-5CH or higher-channel signal.
   - Field strength: 60—80 dBμV
2. Connect the oscilloscope to pin (36) of IC801.
   - Range: 0.5 V/div.
   - Sweep time: 20 μsec/div
   - Sync: Horizontal sync
3. Connect the standard signal generator's output cable to the tuner's IF output terminal with a 1-pF capacitor in between.
   - Frequency: 38.9 MHz (CW) ± 5 kHz (14D-SCⒶ, 14B-SCⒶ)
     38.0 MHz (CW) ± 5 kHz (20B-SCⒶ)
   - Level: About 90 dBμV
4. Using the Preset switch, bring about the VHF-H Tuning mode. Adjust the Fine Tuning Up/Down keys so that the waveform be free of beating.
5. Using the Preset switch, bring about the Normal mode.
6. Adjust T202 so that the waveform be free of beating.

- Adjustment error:
  38.900 MHz ± 25 kHz (14D-SCⒶ)
  38.000 MHz ± 25 kHz (14B-SCⒶ, 20B-SCⒶ)



Note 1:
Make this adjustment with the VCO data in the service mode at 31/63.

Note 2:
Warm up the unit long enough before starting adjustment and checking.

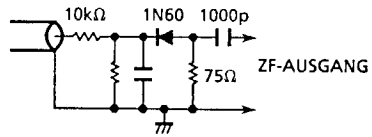
SERVIVE-EINSTELLUNG

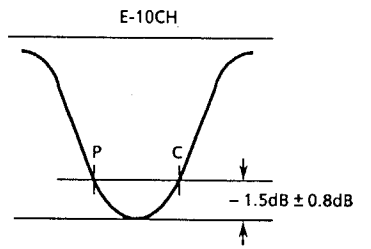
■ BILD-ZF/FEINABSTIMMUNG/AUTOMATISCHE VERSTÄRKUNGSREGELUNG

1. TUNER (Tuner-ZF; Vorprogrammierung)

1. Den Tuner für den Empfang des E-10CH-Signals (ohne Signaleingang) vorbereiten. Die Vt und die Banddaten einstellen.
2. Das Ausgangskabel des Kippgenerators an die Tunerantenne anschließen.
3. Den Ausgangspegel des Kippgenerators auf 80 dBμV einstellen.
4. Das Kabel an die ZF-Klemme des Tuners anschließen (eine Niedrig-Impedanz-Sonde mit Wellenformdetektor verwenden). (Diese Klemme darf nur mit der Sonde verbunden sein.)
5. Die Spannung der HF-HVR auf 0-6 V einstellen (kein Kontakt mit Wellenform).
6. Die ZF-Spule des Tuners so einstellen, daß die Wellenform jene in der rechten Abbildung gleicht.

Hinweis:
Sicherstellen, daß die Tunerabdeckung bei dieser Einstellung geschlossen bleibt.

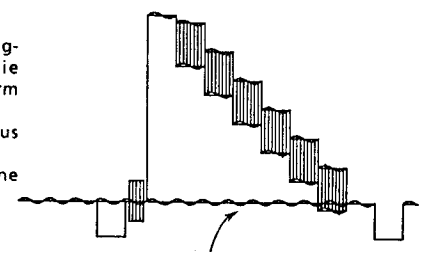




2. SPULENEINSTELLUNG: T202 (SPANNUNGSGESTEUERTER OSZILLATOR)

1. Das E-12CH (PAL-FARBBALKENSIGNAL) empfangen. Wenn dieses Signal nicht vorhanden ist, ein E-5CH-Signal oder ein Signal eines höheren Kanals empfangen.
   - Feldstärke: 60—80 dBμV
2. Das Oszilloskop an Stift (26) von IC801 anschließen.
   - Bereich: 0,5 V/Teilung
   - Zeitablenkung: 20 μsec/Teilung
   - Synchronisierung: horizontal
3. Das Ausgangskabel des Standard-Signalgenerators mit einem 1-pF Kondensator dazwischen an die ZF-Ausgangsklemme des Tuners anschließen.
   - Frequenz: 38,9 MHz (CW) ± 5 kHz (14D-SCⒶ, 14B-SCⒶ)
     38,0 MHz (CW) ± 5 kHz (20B-SCⒶ)
   - Pegel: ca. 90 dBμV
4. Mit dem Preset-Schalter auf den VHF-H Tuning-Modus einstellen. Die Auf/Ab-Tasten für die Feineinstellung so einstellen, daß die Wellenform keine Flatterschwingung ausweist.
5. Mit dem Preset-Schalter auf den Normalmodus einstellen.
6. T202 so einstellen, daß die Wellenform keine Flatterschwingung ausweist.

- Einstellfehler:
  38,900 MHz (CW) ± 25 kHz (14D-SCⒶ)
  38,000 MHz (CW) ± 25 kHz (14B-SCⒶ, 20B-SCⒶ)



Hinweis 1:
Die Einstellung mit den spannungsgesteuerten Oszillatordaten im Service-Modus bei 31/63 vornehmen.

Hinweis 2:
Das Gerät vor Beginn der Einstellung und Überprüfung lange genug aufwärmen lassen.

■ 115V LINE ADJUSTMENT

1. Before turning on the power, set R711 to the 5/10 position.
2. Receive the E-5CH (monoscope pattern) signal.
3. Set the contrast and brightness controls to the MAX position.
4. Connect the beam current meter to TP602 (–) and TP603 (+).
5. Take the beam current meter reading to see if the beam current is as specified below (*1).
   If the beam current is not as specified, adjust the sub-contrast control (R420) to get the beam current in this range.
6. Connect the digital voltmeter to TP701.
   • Adjust R711 to obtain 115 ± 0.5 V.

(*1)

14D-SC Ⓐ, 14B-SC Ⓐ	600—800 μA
20B-SC Ⓐ	900—1100 μA

■ EINSTELLUNG DER 115 V LEITUNG

1. Vor dem Einschalten des Geräts den R711 in die 5/10-Position bringen.
2. Das E-5CH-Signal (Monoskopmuster) empfangen.
3. Die Kontrast- und Helligkeitsregler in die MAX-Position bringen.
4. Das Strahlstrom-Meßgerät an TP602 (–) und TP603 (+) halten.
5. Den Wert am Strahlstrom-Meßgerät ablesen und mit dem nachfolgend spezifizierten Wert (*1) vergleichen. Wenn der Meßwert nicht dem spezifizierten Wert entspricht, den Nebenkontrastregler (R420) so einstellen, daß der Strahlstromwert in diesem Bereich liegt.
6. Das Digital-Voltmeter am TP701 anschließen.
   • R711 so einstellen, daß 115 ± 0,5 V erhalten werden.

(*1)

14D-SC Ⓐ, 14B-SC Ⓐ	600—800 μA
20B-SC Ⓐ	900—1100 μA

■ PURITY ADJUSTMENT

Note 1: Keep the static convergence roughly adjusted.
Note 2: Maintain the purity magnet at the zero magnetic field.

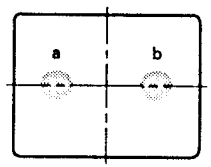


Fig. A

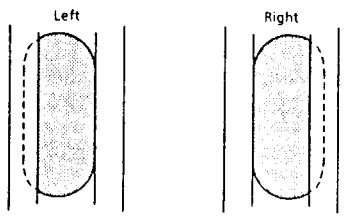


Fig. B

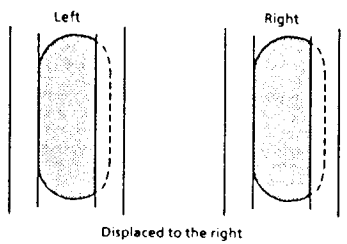


Fig. C

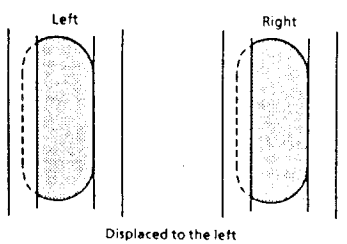


Fig. D

1. 14D-SC Ⓐ, 14B-SC Ⓐ:
   Warm up the unit for 30 minutes or longer with a beam current of over 500 μA.
   20B-SC Ⓐ:
   Warm up the unit for 30 minutes or longer with a beam current of over 700 μA.
2. 14D-SC Ⓐ, 14B-SC Ⓐ:
   Receive the green-only signal. Adjust the beam current to 500 μA or so.
   20B-SC Ⓐ:
   Receive the green-only signal. Adjust the beam current to 700 μA.
3. Degauss the CRT enough with the degaussing coil.

PREPARATIONS

- Orientation: Eastward
  Adjustment field (depending on destinations)
  Vertical (Bv): + 30,000 nT (+ 0.30 gauss)
  Horizontal (Bh): 20,000 nT (0.20 gauss)

1. Observe the points "a" and "b", as shown in Fig. A, through a microscope. Adjust the landings to the specified requirements.
2. Move the deflection yokes forward so that the left and right landings be equally placed outward. See Fig. B.
3. If the landings are placed to the left or right, as shown in Figs. C and D, readjust the open angle of the purity magnet.
4. Make sure the left and right beam landings are as specified. Now check the CRT corners to see if they all meet the rank "B" requirements.
5. If any other colour appears on the screen, move the deflection coil backward.
   - Landings outward: Deflection yokes forward
   - Landings inward: Deflection yokes backward
6. Orient the raster rotation to 0 eastward.
7. Tighten up the deflection coil screws.
   - Tightening torque: 11 ± 2 kg-cm

■ FARBREINHEITSEINSTELLUNG

Hinweis 1: Die statische Konvergenz grob eingestellt halten.
Hinweis 2: Den Farbreinheitsmagnet im Null-Magnetfeld halten.

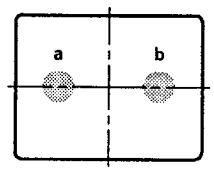


Abb. A

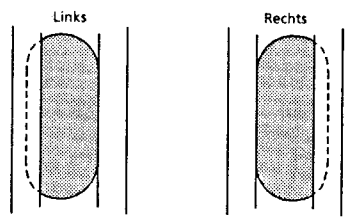


Abb. B

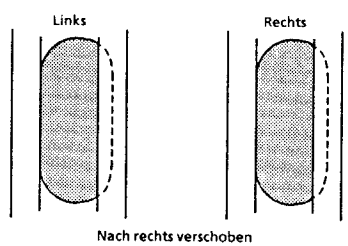


Abb. C

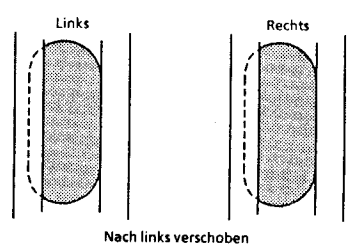


Abb. D

1. 14D-SC Ⓐ, 14B-SC Ⓐ:
   Das Gerät mit einem Strahlstrom von über 500 μA für 30 Minuten oder länger aufwärmen.
   20B-SC Ⓐ:
   Das Gerät mit einem Strahlstrom von über 700 μA für 30 Minuten oder länger aufwärmen.
2. 14D-SC Ⓐ, 14B-SC Ⓐ:
   Nur das Grünsignal empfangen. Den Strahlstrom auf ca. 500 μA einstellen.
   20B-SC Ⓐ:
   Nur das Grünsignal empfangen. Den Strahlstrom auf ca. 700 μA einstellen.
3. Die Bildröhre ausreichend mit einer Entmagnetisierspule degaussieren.

VORBEREITUNGEN

- Richtung: gegen Osten
  Einstellfeld (vom Bestimmungsort abhängig)
  Vertikal (Bv); + 30.000 nT (+ 0,30 Gauss)
  Horizontal (Bh); 20.000 nT (0,20 Gauss)

1. Die Punkte "a" und "b" durch ein Mikroskop beobachten (siehe Abbildung A). Die Positionierung des Strahls nach den spezifizierten Anforderungen einstellen.
2. Die Ablenkjochs nach vorne bewegen, so daß die beiden Strahlpositionierungen gleichmäßig nach außen gerichtet sind (siehe Abb. B).
3. Wenn die Strahlpositionierungen nach links oder rechts verschoben sind, wie in Abb. C und D dargestellt, den Öffnungswinkel des Farbreinheitsmagneten nachstellen.
4. Sicherstellen, daß die rechten und linken Strahlpositionierungen den Spezifikationen entsprechen. Nun die Bildschirmecken überprüfen, und feststellen, ob all die Erfordernisse für Rang "B" erfüllen.
5. Wenn eine andere Farbe am Bildschirm erscheint, muß die Ablenkspule nach hinten bewegt werden.
   - Landings nach außen: Ablenkjochs nach vorne
   - Landings nach innen: Ablenkjochs nach hinten
6. Die Rasterdrehung auf 0 gegen Osten orientieren.
7. Die Ablenkspulenschrauben festziehen.
   - Anzugsdrehmoment: 11 ± 2 kg-cm

■ CONVERGENCE ADJUSTMENT

CONVERGENCE ADJUSTMENT (To be done after the purity adjustment)

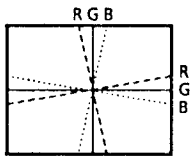


Fig. a

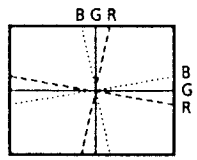


Fig. b

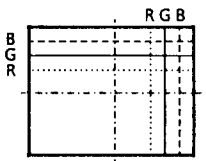


Fig. c

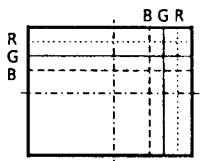
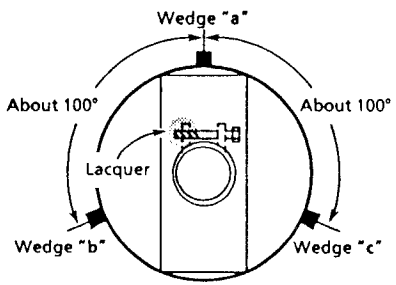
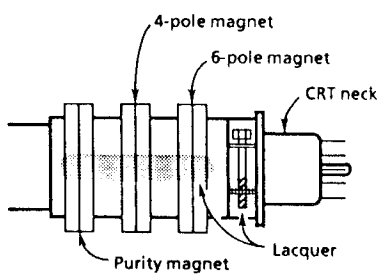


Fig. d





1. Receive the "CROSSHATCH PATTERN" signal.
2. Make the brightness and contrast settings at 5/10 (Normal) and 10/10 (Maximum), respectively. (Use the remote controller.)

STATIC CONVERGENCE

1. Turn the 4-pole magnet to a proper open angle in order to superpose the blue and red colours.
2. Turn the 6-pole magnet to a proper open angle in order to superpose the green over the blue and red colours.

DYNAMIC CONVERGENCE

1. Adjust the convergence on the fringes of the screen in the following steps.
   - Fig. a: Drive the wedge at point "a" and swing the deflection coil upward.
   - Fig. b: Drive the wedges at points "b" and "c" and swing the deflection coil downward.
   - Fig. c: Drive the "c" wedge deeper and swing the deflection coil rightward.
   - Fig. d: Drive the "b" wedge deeper and swing the deflection coil leftward.
2. Fix all the wedges on the CRT and apply glass tape over them.
3. Apply lacquer to the deflection yoke lock screw, magnet unit (purity, 4-pole and 6-pole magnets) and magnet unit lock screw.

Finally receive the red-only and blue-only signals to make sure there is no other colours on the screen.

■ KONVERGENZEINSTELLUNG

KONVERGENZEINSTELLUNG (nach der Farbreinheitseinstellung auszuführen)

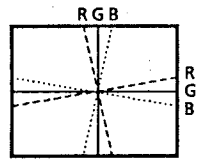


Abb. a

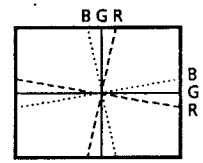


Abb. b

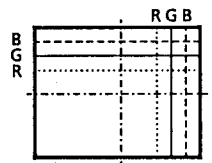


Abb. c

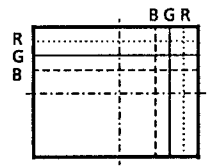
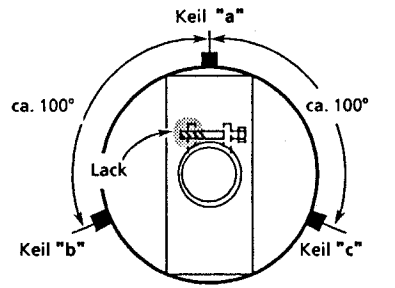
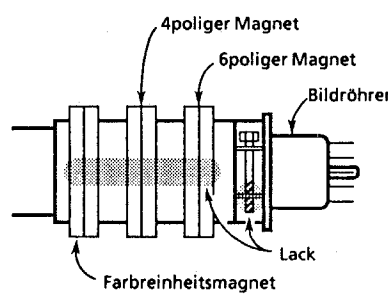


Abb. d





1. Das "SCHACHBRETTMUSTER"-Signal einstellen.
2. Die Helligkeits- und Kontrasteinstellungen auf 5/10 (Normal) und 10/10 (Maximum) bringen. (Hierfür die Fernbedienung benutzen.)

STATISCHE KONVERGENZ

1. Den 4poligen Magneten auf den richtigen Öffnungswinkel drehen, um die Farben Blau und Rot zu überlagern.
2. Den 6poligen Magneten auf den richtigen Öffnungswinkel drehen, um die Farbe Grün auf den Farben Blau und Rot zu überlagern.

DYNAMISCHE KONVERGENZ

1. Die Konvergenz an den Randflächen des Bildschirms in folgenden Schritte einstellen.
   - Abb. a: Den Keil am Punkt "a" eintreiben und die Ablenkspule nach oben schwingen.
   - Abb. b: Die Keile an den Punkten "b" und "c" eintreiben und die Ablenkspule nach unten schwingen.
   - Abb. c: Den Keil "c" tiefer eintreiben und die Ablenkspule nach rechts schwingen.
   - Abb. d: Den Keil "b" tiefer eintreiben und die Ablenkspule nach links schwingen.
2. Die Keile am Bildschirm feststellen und mit Glasband abdecken.
3. Auf folgenden Bauteilen Lack aufbringen: Ablenkjoch-Arretierschraube, Magneteinheit-Arretierschraube (Farbreinheitsmagnet, 4polige und 6polige Magnet).

Schließlich nur die Rot- und Blausignale empfangen und sicherstellen, daß keine anderen Farben auf dem Bildschirm erscheinen.

■ Cut-Off, Background and Sub-Contrast Adjustments

1. CRT CUT-OFF ADJUSTMENT

Adjusting point
- ☐ Service mode: I²C bus adjustment (R-CUT OFF, G-CUT OFF, B-CUT OFF, SUB BRIGHT)
- ☐ Screen control (a part of T601)

1. Receive the MONOSCOPE PATTERN signal.
2. Adjust the SUB BRIGHT data to 40/127.
3. Turn on the S1008 switch to select the CUT OFF BKGD mode.
4. Make the following settings.
   - R-CUT OFF: 0/255 • G-CUT OFF: 0/255 • B-CUT OFF: 0/255
   - Screen control: 0/10
5. Press the "9" key on the remote controller to reach the horizontal centering mode.
6. Turn the screen control clockwise until the horizontal raster of the first glimmering colour becomes slightly visible.
7. Adjust the cut-off data of the other two colours until the horizontal raster becomes whitish. (Table 1)
8. Turn the screen control counterclockwise until the horizontal raster disappears.
9. Press the "9" key on the remote controller to call the Normal mode.

Note: Before starting this adjustment, warm up the unit for 30 minutes or longer at a beam current of over 500 μA (14D-SC Ⓐ, 14B-SC Ⓐ), 700 μA (20B-SC Ⓐ).

Table 1.
The data can be turned up and down with the keys.

	KEY No.	
	UP	DOWN
R-CUT OFF	1	4
G-CUT OFF	2	5
B-CUT OFF	3	6

2. WHITE BALANCE ADJUSTMENTS

Adjusting point
- ☐ Service mode: I²C bus adjustment (R-DRIVE, B-DRIVE)

1. Receive the MONOSCOPE PATTERN signal.
2. Make this adjustment just after the CRT cut-off adjustment.
3. Connect the beam current meter between TP601 (−) and TP602 (+). (Full scale: 3 mA range)
4. Press the "30+" key on the remote controller to call the PIC3 mode. Roughly adjust the SUB CONT data to have a beam current of 1100 μA.
5. Adjust the R-DRIVE and B-DRIVE data to have a colour temperature of 10900°K (white). (Table 2)
6. Press the "10+" key on the remote controller to call the PIC1 mode. Now check the colour temperature. If the colour temperature is not 10900°K, go back to the above Item 1.
   - 10900°K x: 0.275, y: 0.287 (with a Minolta colour temperature meter)

KEY	MODE	SETTING POSITION	
		CONTRAST	BRIGHT.
10+	PIC1	1/64	32/64
20+	PIC2	64/64	32/64
30+	PIC3	64/64	64/64

Table 2.

	KEY No.	
	UP	DOWN
R-DRIVE	7	FB
B-DRIVE	8	0

3. SUB-CONTRAST ADJUSTMENTS (I²C bus adjustment)

1. Make this adjustment just after the white balance adjustment.
2. Receive the MONOSCOPE PATTERN signal.
3. Connect the DC milliammeter between TP601 (−) and TP602 (+).
   - Meter's full-scale: 3 mA range
4. Adjust the SUB-CONT bus data so that the beam current be 800 μA (14D-SC Ⓐ, 14B-SC Ⓐ), 1100 μA (20B-SC Ⓐ). (at Contrast/Brightness MAX condition)

Note:
Before starting this adjustment, warm up the unit for 30 minutes or longer at a beam current of over 500 μA (14D-SC Ⓐ, 14B-SC Ⓐ), 700 μA (20B-SC Ⓐ).

■ Einstellungen für Trennung, Grundhelligkeit und Nebenkontrast

1. BILDRÖHREN TRENNUNGS-EINSTELLUNG

Einstellpunkt
- ☐ Service-Modus: I²C-Buseinstellung (R-TRENNUNG, G-TRENNUNG, B-TRENNUNG, NEBENHELLIGKEIT)
- ☐ Bildschirmsteuerung (Teil von T601)

1. Das "MONOSKOPMUSTER"-Signal empfangen.
2. Die NEBENHELLIGKEIT auf 40/127 einstellen.
3. Den Schalter S1008 drehen, um den TRENNUNGS- BKGD-Modus zu aktivieren.
4. Die folgenden Einstellungen ausführen:
   - R-TRENNUNG: 0/255 • G-TRENNUNG: 0/255
   - B-TRENNUNG: 0/255 • Bildschirmsteuerung: 0/10
5. Die Taste "9" auf der Fernbedienung betätigen, um in den Horizontal-Mittenausrichtmodus zu schalten.
6. Den Bildschirmregler im Uhrzeigersinn drehen, bis das Horizontalraster der ersten schimmernden Farbe geringfügig sichtbar wird.
7. Die Trennungswerte der anderen beiden Farben einstellen, bis der Horizontalraster weißlich erscheint (Tabelle 1).
8. Den Bildschirmregler gegen den Uhrzeigersinn drehen, bis der Horizontalraster wieder verschwindet.
9. Die Taste "9" auf der Fernbedienung betätigen, um den Normalmodus abzurufen.

Hinweis: Vor Beginn dieser Einstellung ist das Gerät für 30 Minuten oder länger bei einem Strahlstrom von über 500 μA (14D-SC Ⓐ, 14B-SC Ⓐ) bzw. 700 μA (20B-SC Ⓐ) einzustellen.

Tabelle 1
Die Werte können mit den UP und DOWN Tasten (aufwärts/abwärts) erhöht bzw. reduziert werden.

	TASTEN-Nr.	
	UP	DOWN
R-TRENNUNG	1	4
G-TRENNUNG	2	5
B-TRENNUNG	3	6

2. WEISSABGLEICH-EINSTELLUNG

Einstellpunkt
- ☐ Service-Modus: I²C-Buseinstellung (R-AKTIVIERUNG, B-AKTIVIERUNG)

1. Das "MONOSKOPMUSTER"-Signal empfangen.
2. Diese Einstellung ist unmittelbar nach der Trennungseinstellung der Bildröhre vorzunehmen.
3. Das Strahlstrom-Meßgerät zwischen TP601 (−) und TP602 (+) anschließen. (Voll-Meßbereich: 3 mA)
4. Die Taste "30+" auf der Fernbedienung betätigen, um den PIC1-Modus abzurufen. Danach die Nebenkontrastwerte grob einstellen, so daß der Strahlstrom ca. 1100 μA beträgt.
5. Die R-AKTIVIERUNGS- und B-AKTIVIERUNGS-Werte einstellen, um eine Farbtemperatur von 10.900°K (weiß) zu erzielen. (Tabelle 2)
6. Die Taste "10+" auf der Fernbedienung betätigen, um den PIC1-Modus abzurufen. Danach die Farbtemperatur überprüfen. Wenn die Farbtemperatur nicht 10.900°K entspricht, zu Posten 1 zurückkehren.
   - 10900°K x: 0,275, y: 0,287 (mit einem Farbtemperatur-Meßgerät von Minolta)

TASTE	MODUS	EINSTELLPOSITION	
		KONTRAST	HELLIGKEIT
10+	PIC1	1/64	32/64
20+	PIC2	64/64	32/64
30+	PIC3	64/64	64/64

Tabelle 2

	TASTEN-Nr.	
	UP	DOWN
R-DRIVE	7	FB
B-DRIVE	8	0

3. NEBENKONTRASTEINSTELLUNGEN (I²C-Buseinstellung)

1. Diese Einstellung ist unmittelbar nach der Einstellung des Weißabgleiches vorzunehmen.
2. Das "MONOSKOPMUSTER"-Signal empfangen.
3. Das Gleichstrom-Milliamperemeter zwischen TP601 (−) und TP602 (+) anschließen.
   - Voll-Meßbereich: 3 mA
4. Die NEBENKONTRAST-Buswerte so einstellen, daß der Strahlstrom 800 μA (14D-SC Ⓐ, 14B-SC Ⓐ) bzw. 1.100 μA (20B-SC Ⓐ) beträgt. (bei maximalen Kontrast/Helligkeitsbedingungen)

Hinweis:
Vor Beginn dieser Einstellung ist das Gerät für 30 Minuten oder länger bei einem Strahlstrom von über 500 μA (14D-SC Ⓐ, 14B-SC Ⓐ) bzw. 700 μA (20B-SC Ⓐ) einzustellen.

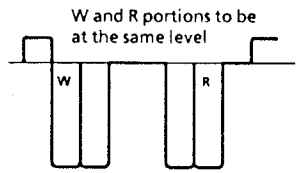
■ OSD ADJUSTMENT: T1001

1. Receive the CROSSHATCH PATTERN signal.
2. Press the CHANNEL CALL key.
3. Make sure the right-hand edge of the OSD character is aligned with the second line from right of the crosshatch pattern. Readjust T1001 if the alignment is beyond ± 1/2 line width.

■ PAL CHROMA ADJUSTMENTS

SUB-COLOUR (I^2C bus adjustment)

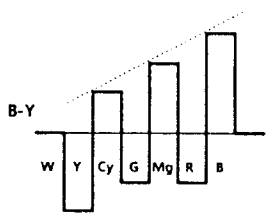
1. Receive the PAL COLOUR BAR signal.
2. Connect the oscilloscope to TP852 (RED cathode). (Use a 10:1 probe.)
   • Range: 2 V/div. • Sweep time: 20 μsec/div.
3. Using the remote controller, call the SUB COLOUR adjust mode. Adjust the SUB COLOUR data so that the white and red portions of the PAL colour bar be at the same level. See Figure.
4. Clear the adjustment mode.



■ NTSC CHROMA ADJUSTMENTS

SUB-TINT (I^2C bus adjustment)

1. Call the SUB TINT adjust mode. Receive the NTSC colour bar signal through the AV-IN terminal.
2. Connect the oscilloscope to TP853 (B-Y).
   • Range: 20 mV/div. (AC) • Sweep time: 20 μsec/div.
   (Use a 10:1 probe.)
3. Adjust the SUB-TINT data to obtain the waveform as shown in Figure.
4. Clear the adjustment mode.



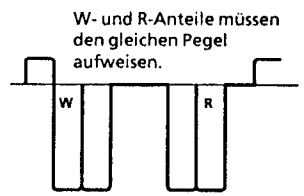
■ OSD-EINSTELLUNG (Bildschirmanzeige): T1001

1. Das "SCHACHBRETTMUSTER"-Signal empfangen.
2. Die CHANNEL CALL-Taste drücken.
3. Sicherstellen, daß die rechte Kante des OSD-Zeichens mit der zweiten Zeile von rechts des Schachbrettmusters ausgerichtet ist. T1001 so einstellen, daß die Ausrichtung jenseits der ± 1/2-Zeilenbreite vorliegt.

■ PAL-CHROMAEINSTELLUNGEN

NEBENFARBE (I^2C-Buseinstellung)

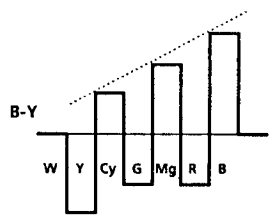
1. Das PAL-FARBBALKENSIGNAL empfangen.
2. Das Oszilloskop an TP852 (rote Kathode) anschließen. (Eine 10:1-Sonde verwenden)
   • Bereich: 2 V/Teilung • Zeitablenkung: 20 μsec/Teilung
3. Mit der Fernbedienung den NEBENFARBE-Einstellmodus abrufen. Die Nebenfarbenwerte so einstellen, daß die weißen und roten Anteile des PAL-Farbbalkens gleich sind. Siehe Abbildung.
4. Den Einstellmodus wieder aufheben.



■ NTSC-CHROMAEINSTELLUNGEN

NEBENFARBTON (I^2C-Buseinstellung)

1. Den NEBENFARBTON-Einstellmodus abrufen. Das NTSC-Farbbalkensignal über die AV-IN-Klemme empfangen.
2. Das Oszilloskop an TP853 (B-Y) anschließen.
   • Bereich: 20 mV/Teilung (Wechselstrom)
   • Zeitablenkung: 20 μsec/Teilung
   (Eine 10:1-Sonde verwenden)
3. Die NEBENFARBTON-Werte einstellen, um die in der Abbildung gezeigte Wellenform zu erzielen.
4. Den Einstellmodus wieder aufheben.



■ DEFLECTION ADJUSTMENT

1. HORIZONTAL SIZE: CN601

Note: Make this adjustment just after the purity and convergence adjustments.

1. Receive the "MONOSCOPE PATTERN" signal.
2. Insert P605 in CN601 to have the best horizontal size.
   - Over scan ..... 6% MIN, 8% TYP, 10% MAX

2. HORIZONTAL CENTER 50 (I^2C bus adjustment)

1. Receive the "MONOSCOPE PATTERN" signal.
2. Adjust the H-CENTER 50 data to align the pattern's center with the CRT's geometrical center.

3. HORIZONTAL CENTER 60 (I^2C bus adjustment)

1. Receive the AV-NTSC (monoscope pattern) signal.
2. Adjust the H-CENTER 60 data to align the pattern's center with the CRT's geometrical center.

4. VERTICAL LINEARITY: R523

1. Receive the "MONOSCOPE PATTERN" signal.
2. Adjust R527 to have the best vertical linearity.

5. VERTICAL CENTER: S501

1. Receive the "MONOSCOPE PATTERN" signal.
2. Adjust S501 to align the pattern's center with the CRT's geometrical center.

6. VERTICAL SIZE: R527

1. Receive the "MONOSCOPE PATTERN" signal.
2. Adjust R527 so that the vertical size be the same as the overscan of the horizontal size.

7. FOCUS: (a part of T601: Focus Control)

1. Receive the "MONOSCOPE PATTERN" signal.
2. Adjust the focus control to get the best focusing.

Note: Make this adjustment just after the sub-contrast adjustment.

■ A/V INPUT AND OUTPUT CHECK

1. AUDIO/VIDEO OUTPUT CHECK (For 14B-SC Ⓐ and 20B-SC Ⓐ only)

1. Receive the "COLOUR BAR" signal (100% white colour bar, sound: 400 Hz, 100% mod.).
2. Terminate the video output with a 75 Ω impedance. Make sure the output is as specified (1.0 Vp-p ± 3 dB).
3. Terminate the audio output with a 10 kΩ impedance. Make sure the output is as specified (2.6 Vp-p ± 3 dB).

2. AUDIO/VIDEO INPUT CHECK

1. Using the TV/AV key on the remote controller, make sure that the modes change in the order of TV, AV and TV again and that the video and audio outputs are according to the input and output terminals for each mode.

■ ABWEICHUNGSEINSTELLUNG

1. HORIZONTALGRÖSSE: CN601

Hinweis: Diese Einstellung ist unmittelbar nach den Einstellungen für Farbreinheit und Konvergenz vorzunehmen.

1. Das "MONOSKOPMUSTER"-Signal empfangen.
2. P605 in CN601 einführen, um die beste Horizontalgröße zu erzielen.
   - Nutzflächenüberschreitung ..... 6% MIN, 8% TYP, 10% MAX

2. HORIZONTALE MITTE 50 (I^2C-Buseinstellung)

1. Das "MONOSKOPMUSTER"-Signal empfangen.
2. Die Werte für die HORIZONTALE MITTE 50 so einstellen, daß der Mittelpunkt des Musters mit der geometrischen Mitte der Bildröhre übereinstimmt.

3. HORIZONTALE MITTE 60 (I^2C-Buseinstellung)

1. Das AV-NTSC (Monoskopmuster-Signal) empfangen.
2. Die Werte für die HORIZONTALE MITTE 60 so einstellen, daß der Mittelpunkt des Musters mit der geometrischen Mitte der Bildröhre übereinstimmt.

4. VERTIKALLINERITÄT: R523

1. Das "MONOSKOPMUSTER"-Signal empfangen.
2. R527 so einstellen, daß die beste Vertikallinerität erzielt wird.

5. VERTIKALMITTE: S501

1. Das "MONOSKOPMUSTER"-Signal empfangen.
2. S501 so einstellen, daß der Mittelpunkt des Musters mit der geometrischen Mitte der Bildröhre übereinstimmt.

6. VERTIKALGRÖSSE: R527

1. Das "MONOSKOPMUSTER"-Signal empfangen.
2. R527 so einstellen, daß die Vertikalgröße der Nutzflächenüberschreitung der Horizontalgröße entspricht.

7. SCHÄRFE: (als Teil von T601: Schärfenregelung)

1. Das "MONOSKOPMUSTER"-Signal empfangen.
2. Den Schärfenregler so einstellen, daß die bestmögliche Bildschärfe erzielt wird.

Hinweis: Diese Einstellung ist unmittelbar nach der Einstellung des Nebenkontrasts vorzunehmen.

■ A/V-EINGANGS- UND AUSGANGSPRÜFUNG

1. AUDIO/VIDEO-AUSGANGSPRÜFUNG (ausschließlich für 14B-SC Ⓐ und 20B-SC Ⓐ)

1. Das "FARBBALKENSIGNAL" empfangen (100% weißer Balken; Ton: 400 Hz, 100% mod.).
2. Den Videoausgang mit einem Scheinwiderstand von 75 Ω unterbrechen. Sicherstellen, daß der Ausgang (1,0 Vs-s ± 3 dB) der Spezifikation entspricht.
3. Den Videoausgang mit einem Scheinwiderstand von 10 Ω unterbrechen. Sicherstellen, daß der Ausgang (2,6 Vs-s ± 3 dB) der Spezifikation entspricht.

2. AUDIO/VIDEO-AUSGANGSPRÜFUNG

1. Die TV/AV-Taste auf der Fernbedienung betätigen und sicherstellen, daß die einzelnen Modi in der Reihenfolge TV, AV und erneut TV wechseln. Ebenso sicherstellen, daß die Video- und Audioausgänge an den entsprechenden Eingangs- und Ausgangsbuchsen für jeden einzelnen Modus vorliegen.

■ FUNCTION CHECK (PICTURE AND SOUND)

1. CONTRAST KEY

1. Receive the "MONOSCOPE PATTERN" signal.
2. Select the contrast in the picture mode.
3. Using the UP/DOWN key, make sure the contrast varies accordingly.

2. BRIGHTNESS KEY

1. Receive the "MONOSCOPE PATTERN" signal.
2. Select the brightness in the picture mode.
3. Using the UP/DOWN key, make sure the black level varies accordingly.

3. SHARPNESS KEY

1. Receive the "MONOSCOPE PATTERN" signal.
2. Select the sharpness in the picture mode.
3. Using the UP/DOWN keys, make sure the sharpness varies accordingly.

4. COLOUR KEY

1. Receive the "COLOUR BAR PATTERN" signal.
2. Select the colour in the picture mode.
3. Using the UP/DOWN keys, make sure the colour varies accordingly. (Set the key to minimum and be sure that no colour is left on the screen.)

5. TINT KEY

1. Receive the NTSC colour bar signal through the AV-IN terminal.
2. Select the tint in the picture mode.
3. Press the UP key to make sure the tint changes toward green, and the DOWN key toward red.

6. CHANNEL SIGN DISPLAY COLOUR

Make sure that all the channel signs (1-49) appear in green on the screen (with AFT on).

■ FACTORY PRESETTINGS

1. Main AC switch	OFF(Last POWER ON)
2. Last channel	1CH
3. System mode (all channels) (picture and sound)	AUTO
4. Blue back round	ON
5. Contrast	MAX
Colour	CENTER
Brightness	CENTER
Tint	CENTER
Sharpness	CENTER
6. Sound volume	MIN
7. AFT (all channels)	ON
8. Skip (all channels)	Released

■ FUNKTIONSPRÜFUNG (BILD UND TON)

1. KONTRAST-TASTE

1. Das "MONOSKOPMUSTER"-Signal empfangen.
2. Den Kontrast im Bildmodus wählen.
3. Mit der UP/DOWN-Taste sicherstellen, daß sich der Kontrast entsprechend verändert.

2. HELLIGKEIT-TASTE

1. Das "MONOSKOPMUSTER"-Signal empfangen.
2. Die Helligkeit im Bildmodus wählen.
3. Mit der UP/DOWN-Taste sicherstellen, daß sich die Helligkeit entsprechend verändert.

3. SCHÄRFE-TASTE

1. Das "MONOSKOPMUSTER"-Signal empfangen.
2. Die Schärfe im Bildmodus wählen.
3. Mit der UP/DOWN-Taste sicherstellen, daß sich die Helligkeit entsprechend verändert.

4. FARBTASTE

1. Das "FARBBALKENMUSTER"-Signal empfangen.
2. Die Farbe im Bildmodus wählen.
3. Mit der UP/DOWN-Taste sicherstellen, daß sich die Helligkeit entsprechend verändert. (Die Taste in die Minimaleinstellung bringen und sicherstellen, das keine Farbe auf dem Bildschirm mehr zu sehen ist.)

5. NEBENFARBTON-TASTE

1. Das NTSC-Farbbalkensignal über die AV-IN-Klemme empfangen.
2. Den Farbton im Bildmodus wählen.
3. Die UP-Taste betätigen und sicherstellen, daß sich die Farbe auf Grün verändert. Durch Drücken der DOWN-Tasten muß sich die Farbe auf Rot verändern.

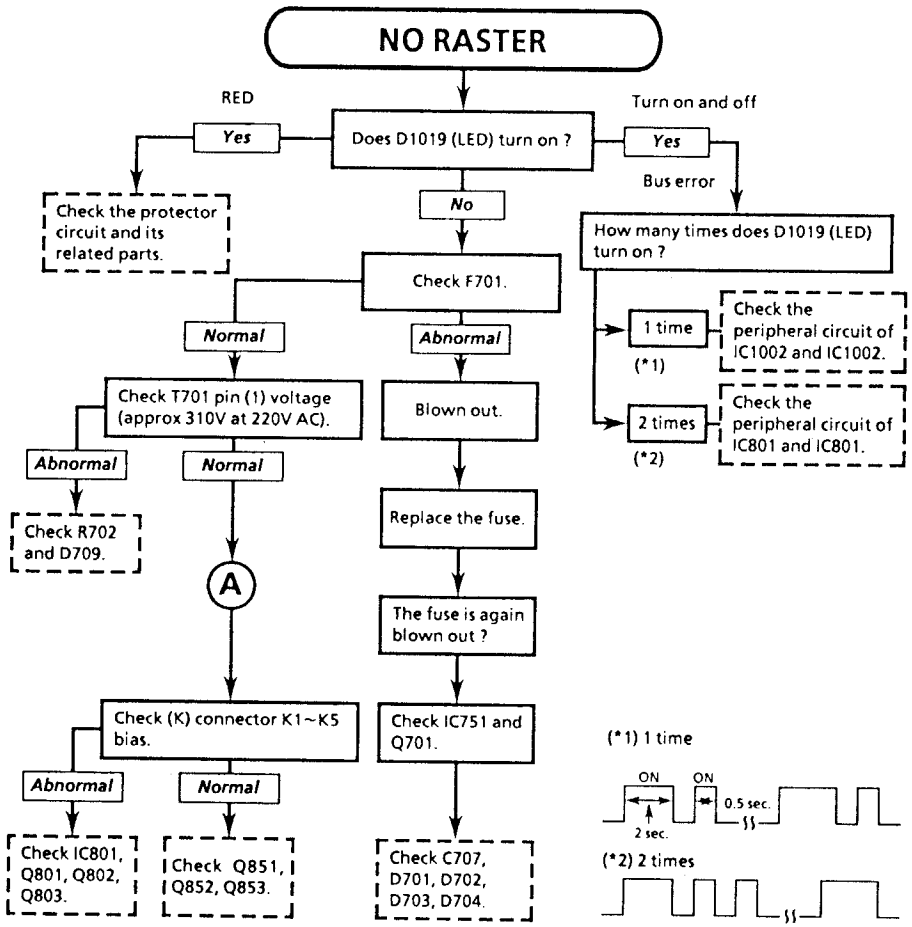
6. FARBANZEIGE FÜR KANALSYMBOL

Unbedingt sicherstellen, daß sämtliche Farbanzeigen des Kanalsymbols (1-49) in Grün am Bildschirm erscheinen (mit der automatischen Feinabstimmung aktiviert).

■ WERKSEINGESTELLTE DATEN

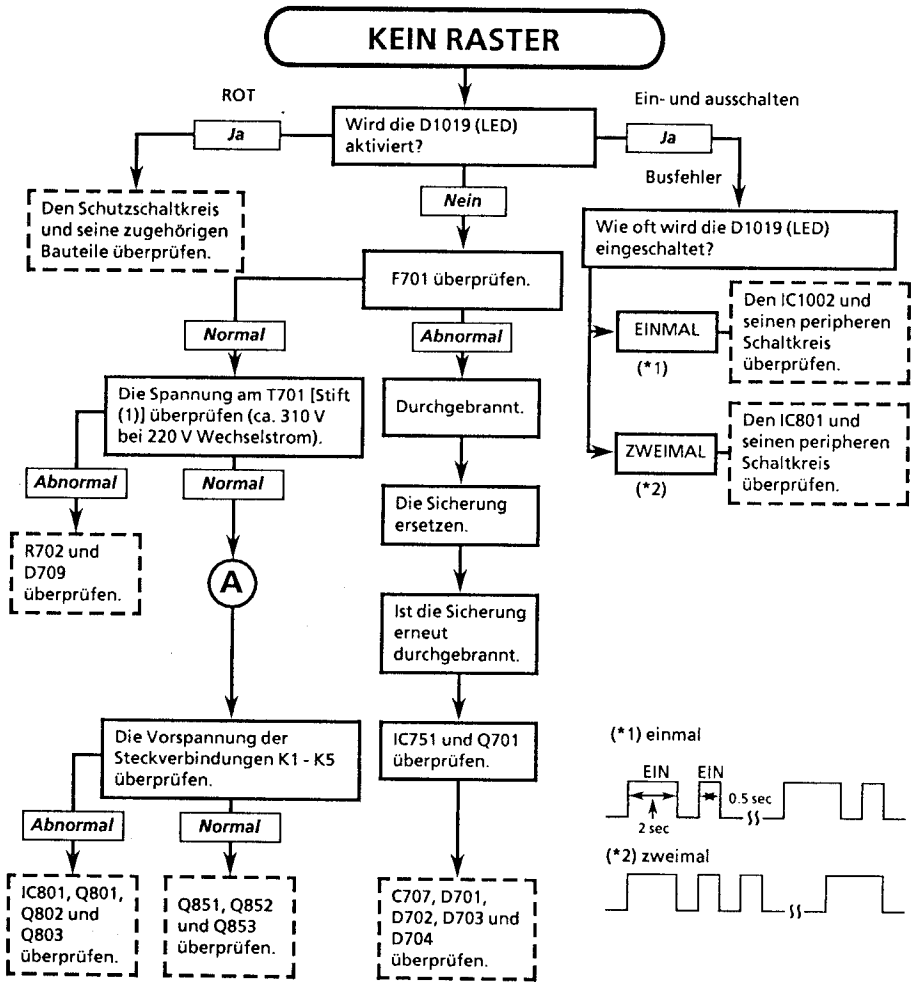
1. Netzschalter	OFF (Letzte LEISTUNG)
2. Letzter Kanal	1CH
3. System-Modus (alle Kanäle) (Bild und Ton)	AUTO
4. Blauer Hintergrund	ON
5. Kontrast	MAX
Farbe	CENTER
Helligkeit	CENTER
Farbton	CENTER
Schärfe	CENTER
6. Lautstärke	MIN
7. Automatische Feinabstimmung (alle Kanäle)	ON
8. Überspringen (alle Kanäle)	freigegeben

TROUBLE SHOOTING TABLE



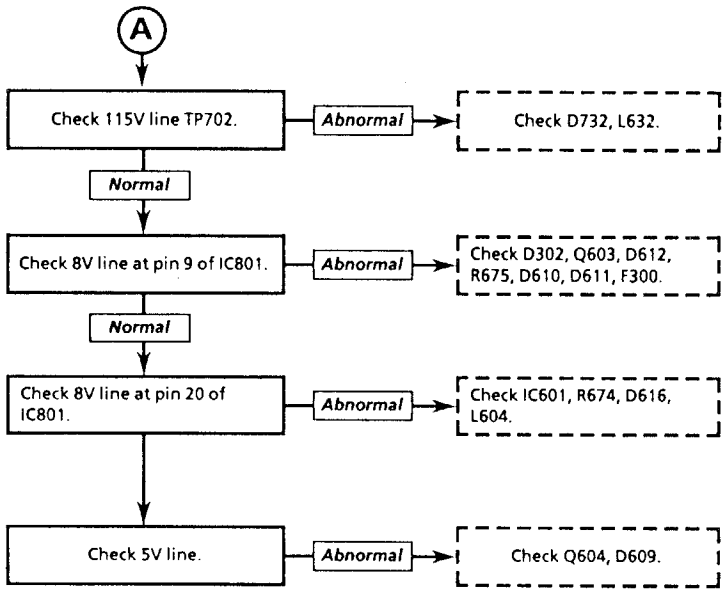
E17

FEHLERSUCHTABELLE

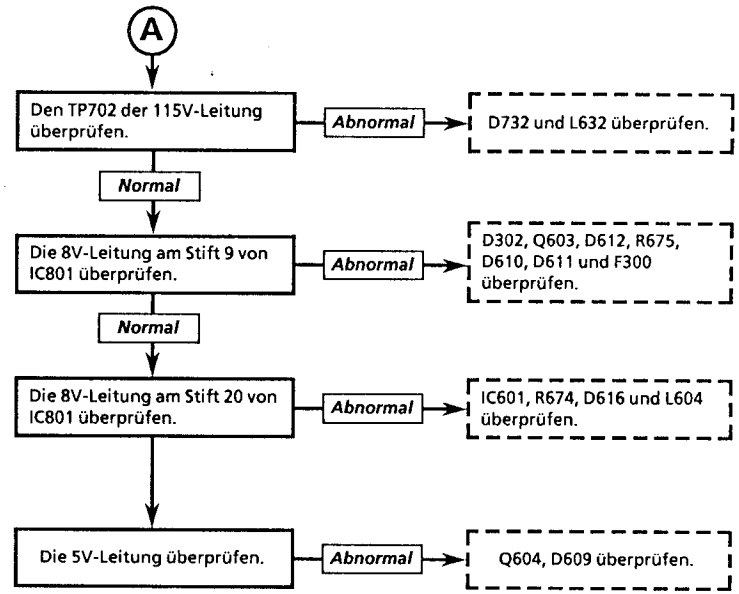


G17

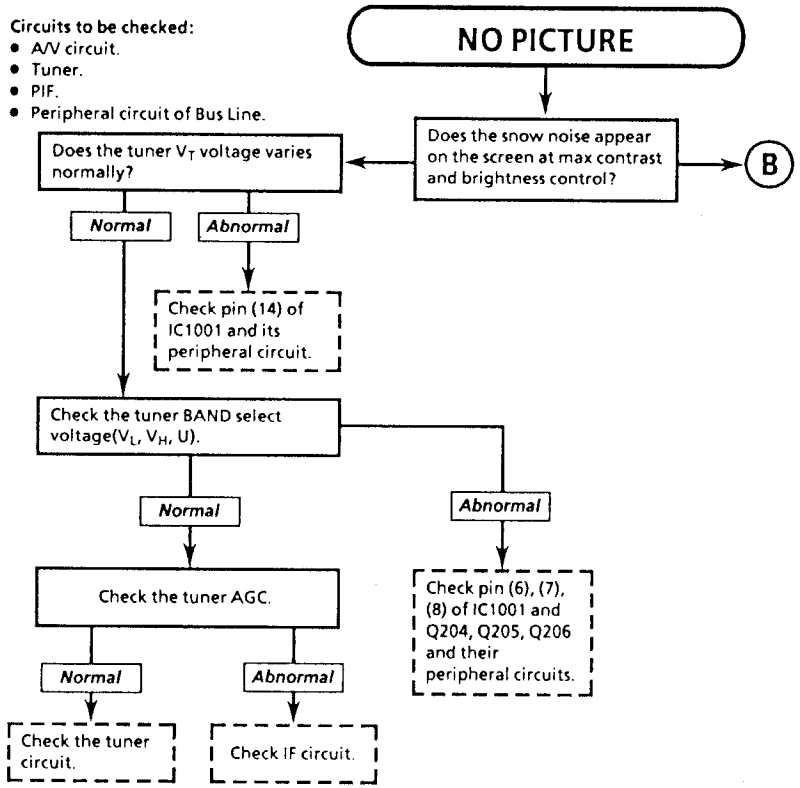
TROUBLE SHOOTING TABLE (Continued)



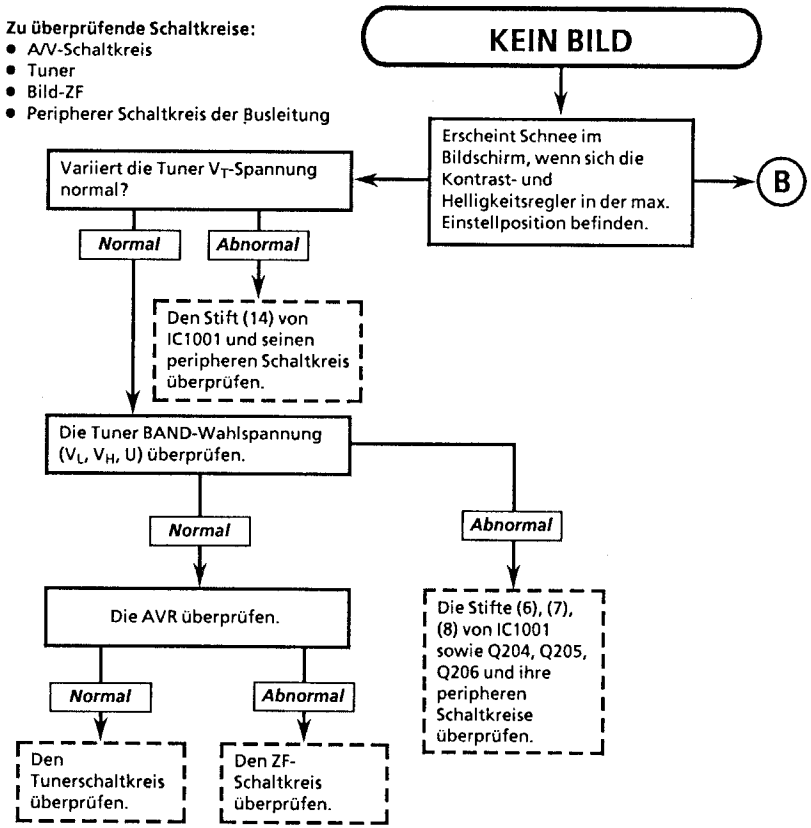
FEHLERSUCHTABELLE (Fortsetzung)



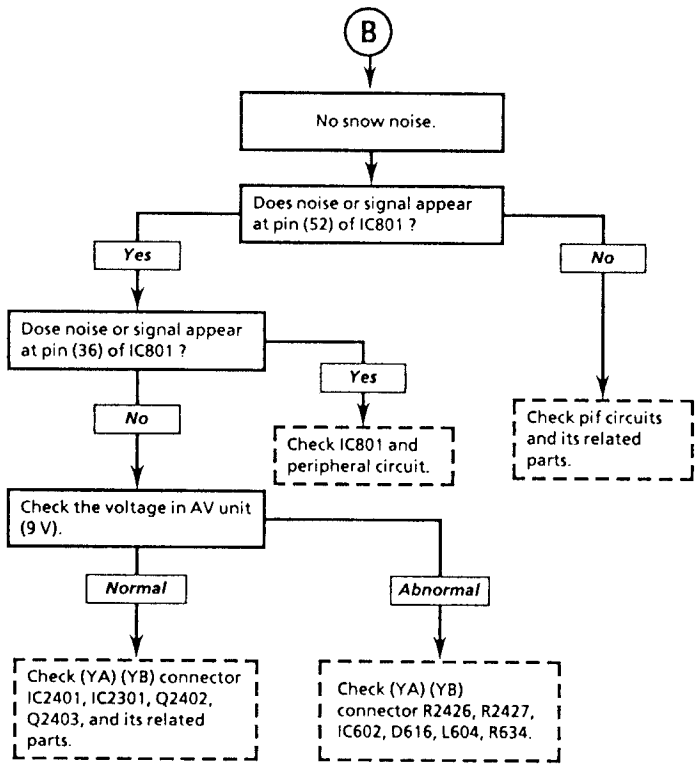
TROUBLE SHOOTING TABLE (Continued)


Circuits to be checked:
• A/V circuit.
• Tuner.
• PIF.
• Peripheral circuit of Bus Line.
NO PICTURE
Does the snow noise appear on the screen at max contrast and brightness control?
B
Does the tuner V_T voltage varies normally?
Normal
Abnormal
Check pin (14) of IC1001 and its peripheral circuit.
Check the tuner BAND select voltage(V_L, V_H, U).
Normal
Abnormal
Check pin (6), (7), (8) of IC1001 and Q204, Q205, Q206 and their peripheral circuits.
Check the tuner AGC.
Normal
Abnormal
Check the tuner circuit.
Check IF circuit.

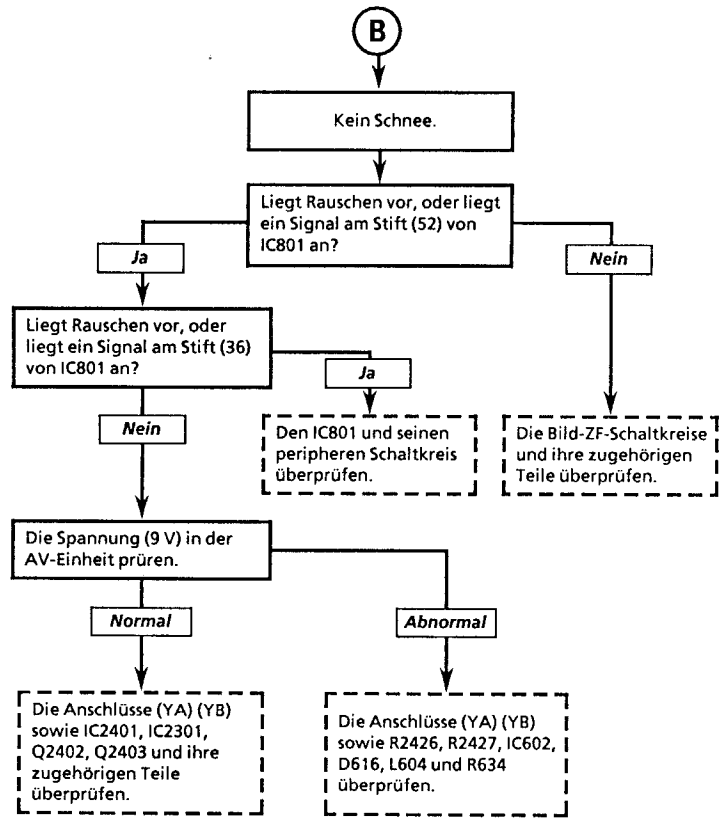
FEHLERSUCHTABELLE (Fortsetzung)


Zu überprüfende Schaltkreise:
• A/V-Schaltkreis
• Tuner
• Bild-ZF
• Peripherer Schaltkreis der Busleitung
KEIN BILD
Erscheint Schnee im Bildschirm, wenn sich die Kontrast- und Helligkeitsregler in der max. Einstellposition befinden.
B
Variiert die Tuner V_T-Spannung normal?
Normal
Abnormal
Den Stift (14) von IC1001 und seinen peripheren Schaltkreis überprüfen.
Die Tuner BAND-Wahlspannung (V_L, V_H, U) überprüfen.
Normal
Abnormal
Die Stifte (6), (7), (8) von IC1001 sowie Q204, Q205, Q206 und ihre peripheren Schaltkreise überprüfen.
Die AVR überprüfen.
Normal
Abnormal
Den Tunerschaltkreis überprüfen.
Den ZF-Schaltkreis überprüfen.

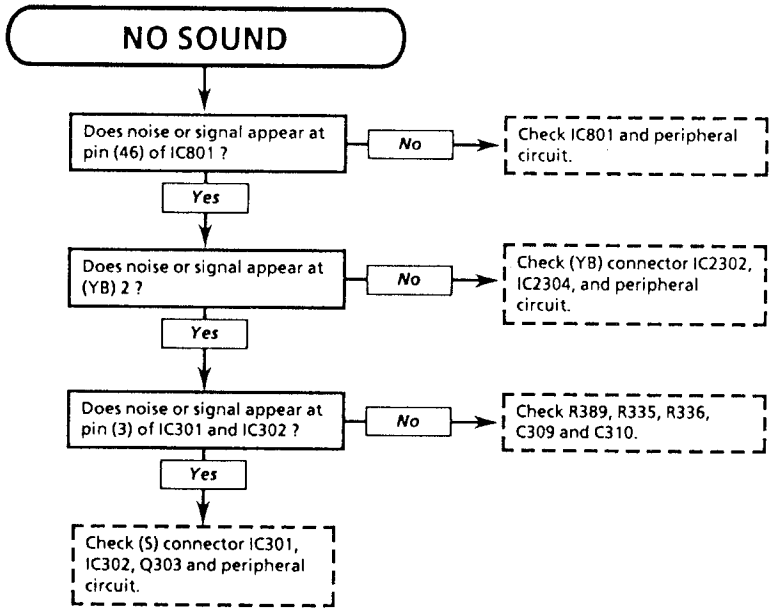
TROUBLE SHOOTING TABLE (Continued)


B
No snow noise.
Does noise or signal appear at pin (52) of IC801 ?
Yes
No
Dose noise or signal appear at pin (36) of IC801 ?
Yes
No
Check IC801 and peripheral circuit.
Check pif circuits and its related parts.
Check the voltage in AV unit (9 V).
Normal
Abnormal
Check (YA) (YB) connector IC2401, IC2301, Q2402, Q2403, and its related parts.
Check (YA) (YB) connector R2426, R2427, IC602, D616, L604, R634.

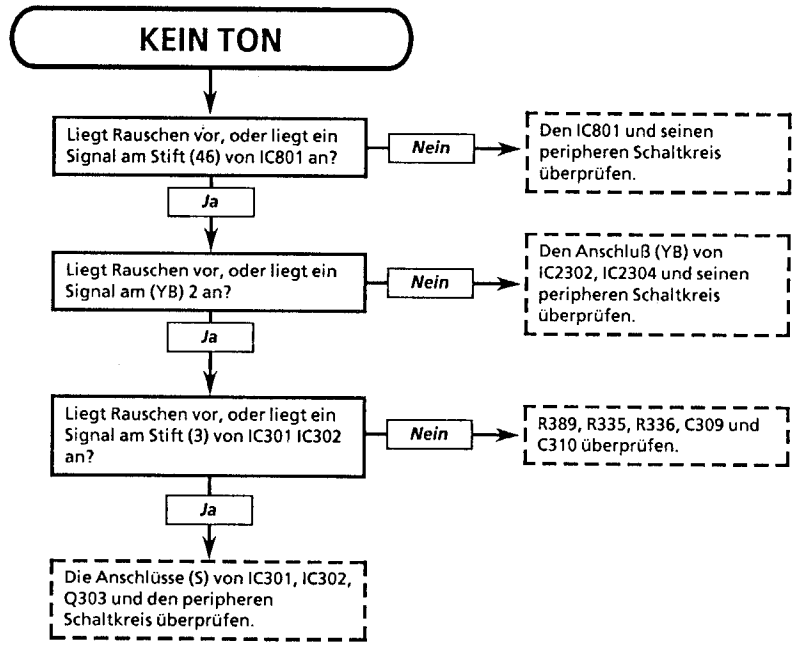
FEHLERSUCHTABELLE (Fortsetzung)


B
Kein Schnee.
Liegt Rauschen vor, oder liegt ein Signal am Stift (52) von IC801 an?
Ja
Nein
Liegt Rauschen vor, oder liegt ein Signal am Stift (36) von IC801 an?
Ja
Nein
Den IC801 und seinen peripheren Schaltkreis überprüfen.
Die Bild-ZF-Schaltkreise und ihre zugehörigen Teile überprüfen.
Die Spannung (9 V) in der AV-Einheit prüren.
Normal
Abnormal
Die Anschlüsse (YA) (YB) sowie IC2401, IC2301, Q2402, Q2403 und ihre zugehörigen Teile überprüfen.
Die Anschlüsse (YA) (YB) sowie R2426, R2427, IC602, D616, L604 und R634 überprüfen.

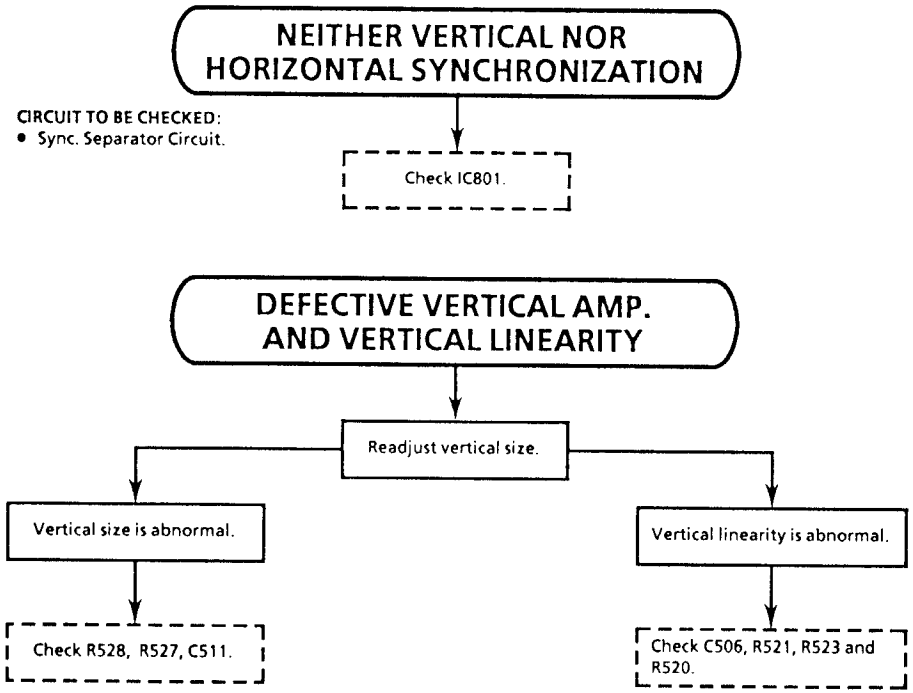
TROUBLE SHOOTING TABLE (Continued)


NO SOUND
Does noise or signal appear at pin (46) of IC801 ?
No
Check IC801 and peripheral circuit.
Yes
Does noise or signal appear at (YB) 2 ?
No
Check (YB) connector IC2302, IC2304, and peripheral circuit.
Yes
Does noise or signal appear at pin (3) of IC301 and IC302 ?
No
Check R389, R335, R336, C309 and C310.
Yes
Check (S) connector IC301, IC302, Q303 and peripheral circuit.

FEHLERSUCHTABELLE (Fortsetzung)

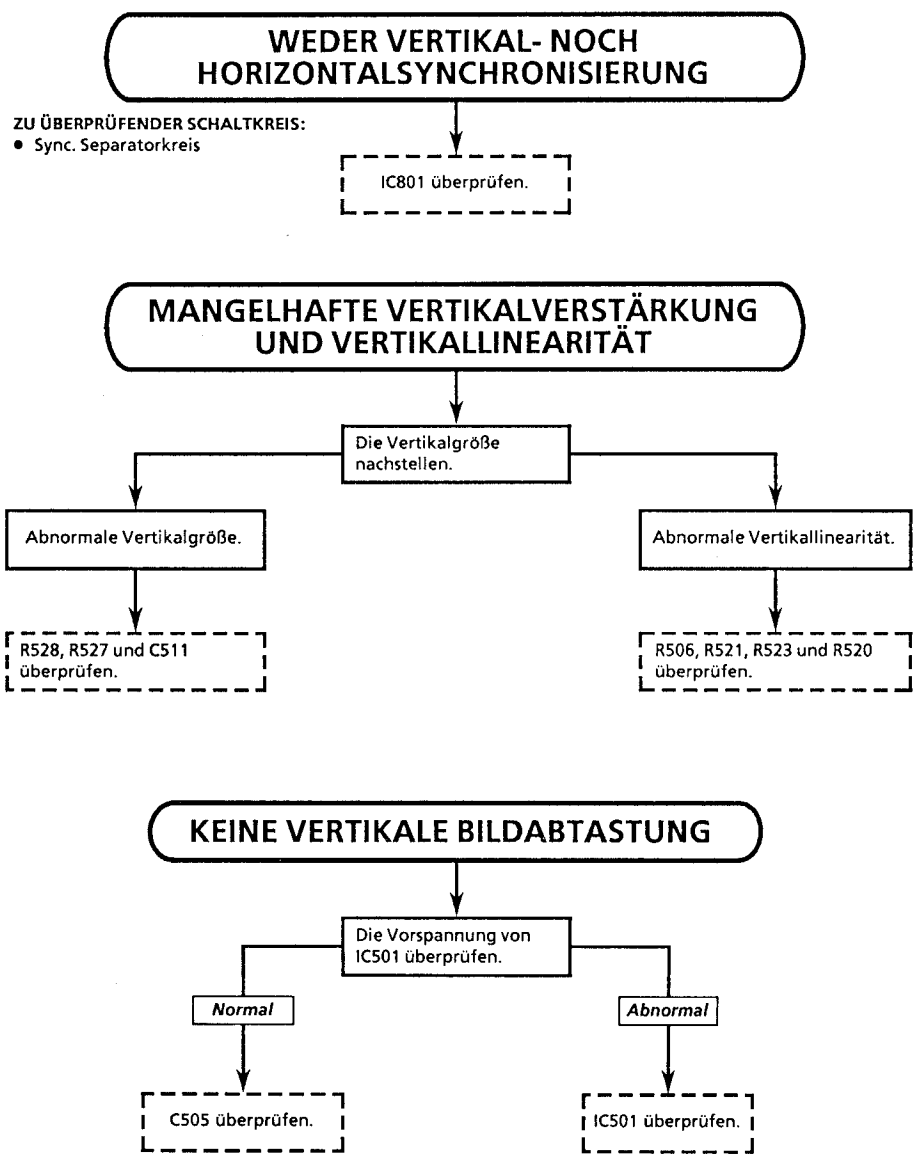

KEIN TON
Liegt Rauschen vor, oder liegt ein Signal am Stift (46) von IC801 an?
Nein
Den IC801 und seinen peripheren Schaltkreis überprüfen.
Ja
Liegt Rauschen vor, oder liegt ein Signal am (YB) 2 an?
Nein
Den Anschluß (YB) von IC2302, IC2304 und seinen peripheren Schaltkreis überprüfen.
Ja
Liegt Rauschen vor, oder liegt ein Signal am Stift (3) von IC301 IC302 an?
Nein
R389, R335, R336, C309 und C310 überprüfen.
Ja
Die Anschlüsse (S) von IC301, IC302, Q303 und den peripheren Schaltkreis überprüfen.

TROUBLE SHOOTING TABLE (Continued)



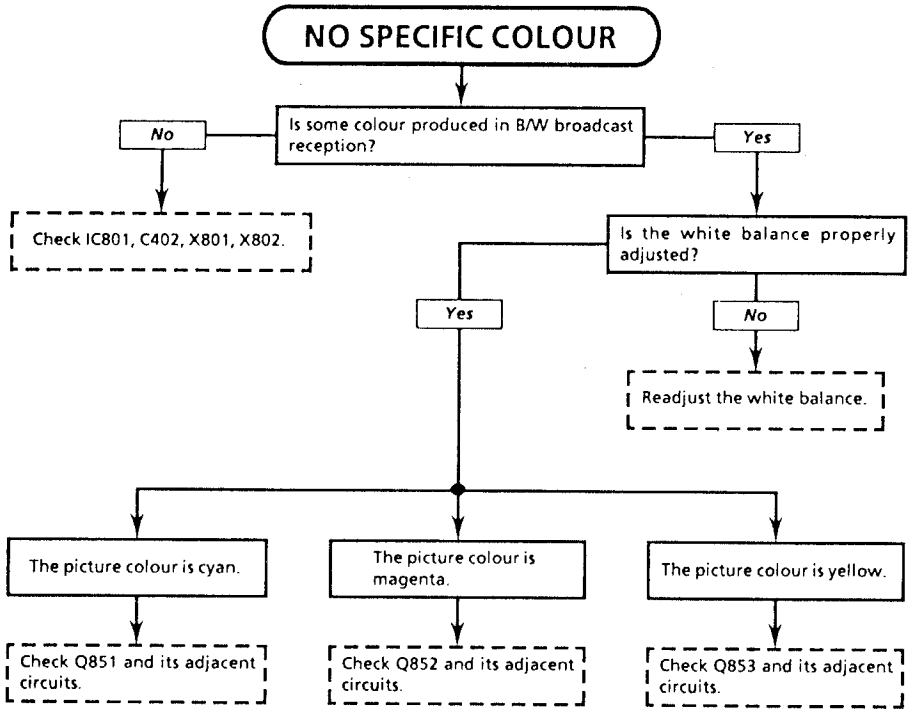
E22

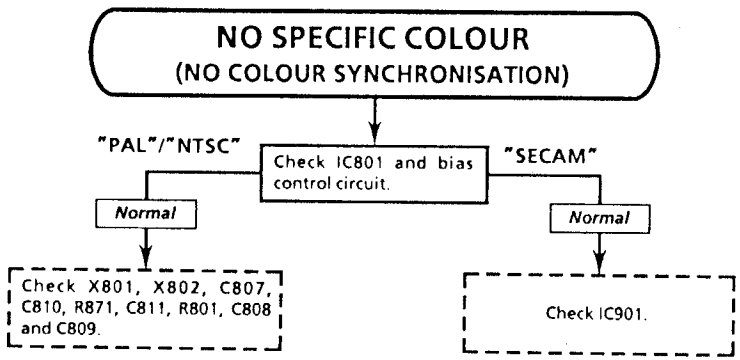
FEHLERSUCHTABELLE (Fortsetzung)



G22

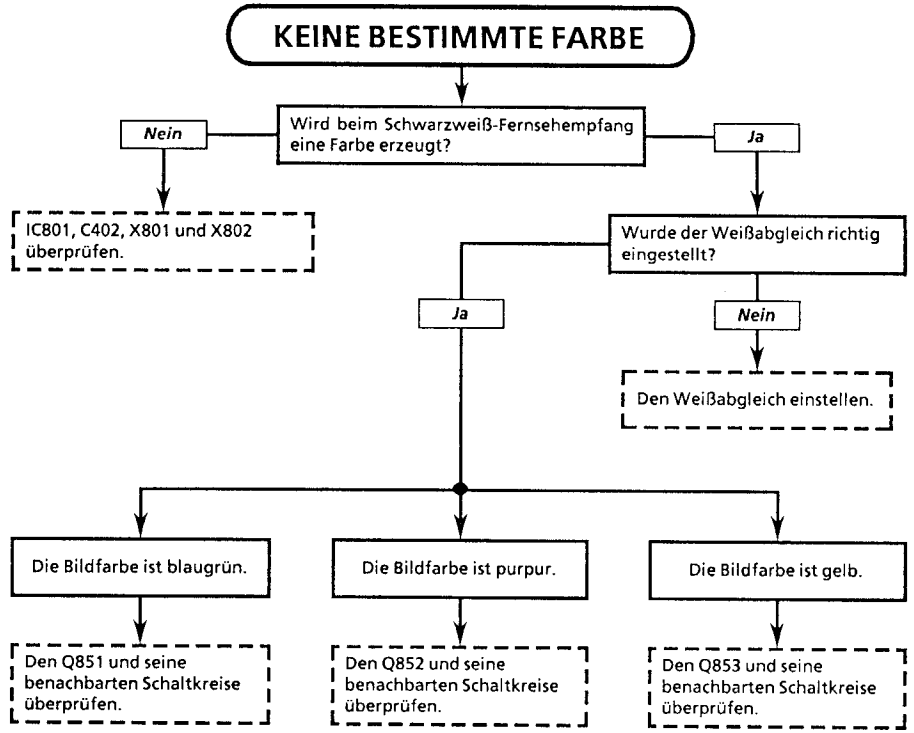
TROUBLE SHOOTING TABLE (Continued)

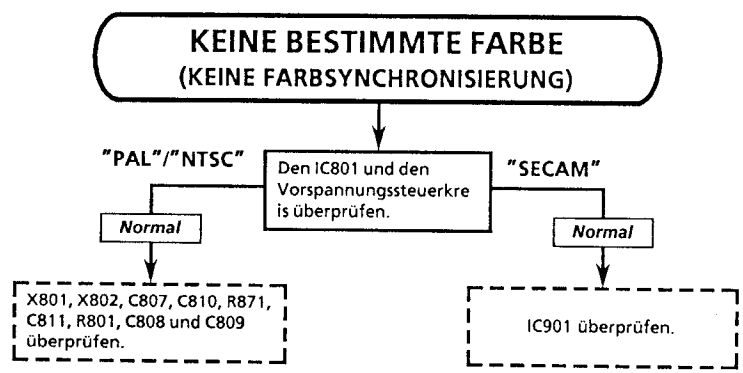

NO SPECIFIC COLOUR
Is some colour produced in B/W broadcast reception?
No
Yes
Check IC801, C402, X801, X802.
Is the white balance properly adjusted?
Yes
No
Readjust the white balance.
The picture colour is cyan.
The picture colour is magenta.
The picture colour is yellow.
Check Q851 and its adjacent circuits.
Check Q852 and its adjacent circuits.
Check Q853 and its adjacent circuits.



E23

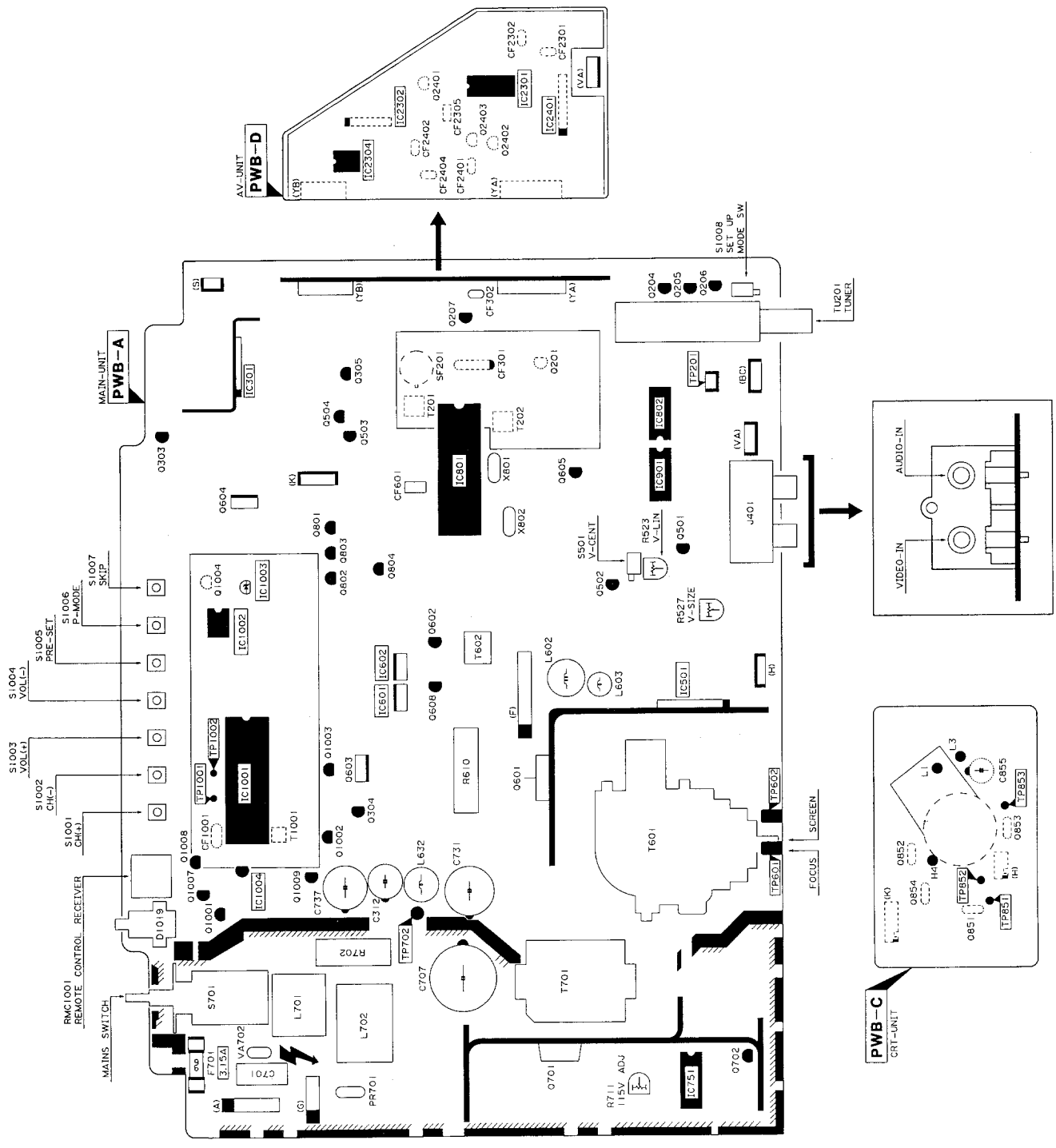
FEHLERSUCHTABELLE (Fortsetzung)


KEINE BESTIMMTE FARBE
Wird beim Schwarzweiß-Fernsehempfang eine Farbe erzeugt?
Nein
Ja
IC801, C402, X801 und X802 überprüfen.
Wurde der Weißabgleich richtig eingestellt?
Ja
Nein
Den Weißabgleich einstellen.
Die Bildfarbe ist blaugrün.
Die Bildfarbe ist purpur.
Die Bildfarbe ist gelb.
Den Q851 und seine benachbarten Schaltkreise überprüfen.
Den Q852 und seine benachbarten Schaltkreise überprüfen.
Den Q853 und seine benachbarten Schaltkreise überprüfen.

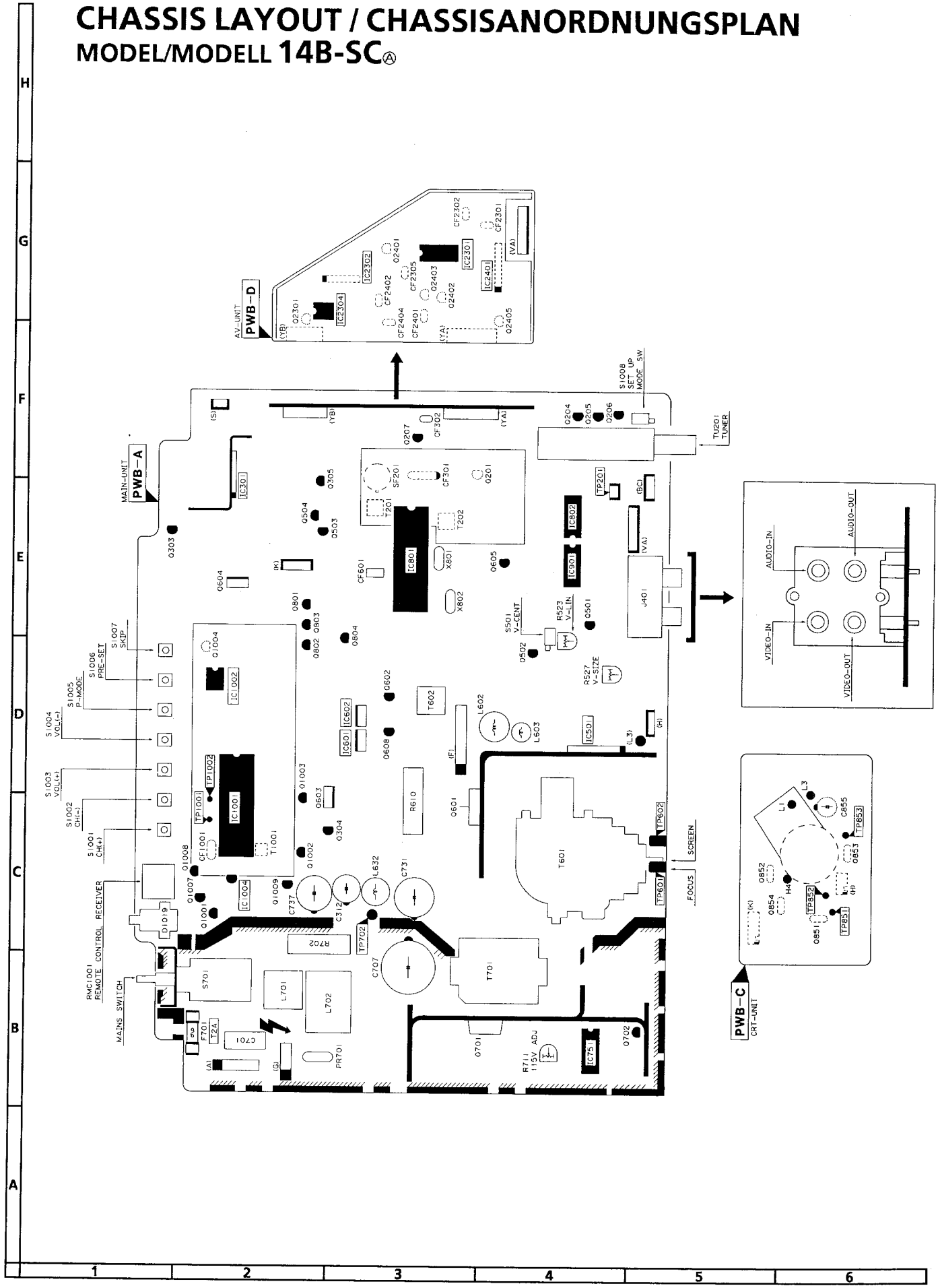


G23

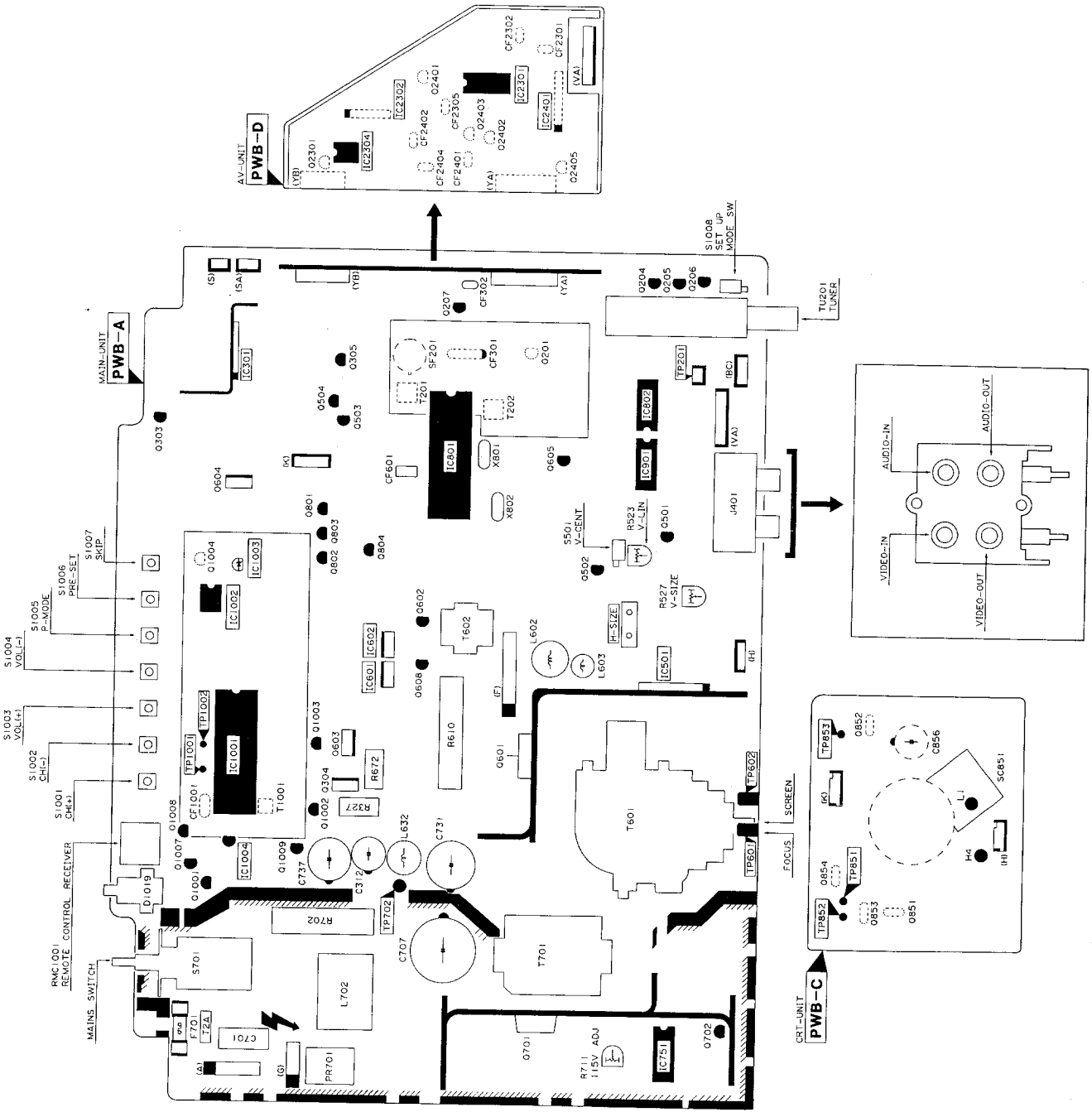
CHASSIS LAYOUT / CHASSISANORDNUNGSPLAN
MODEL/MODELL 14D-SCⒶ



CHASSIS LAYOUT / CHASSISANORDNUNGSPLAN
MODEL/MODELL 14B-SCⒶ

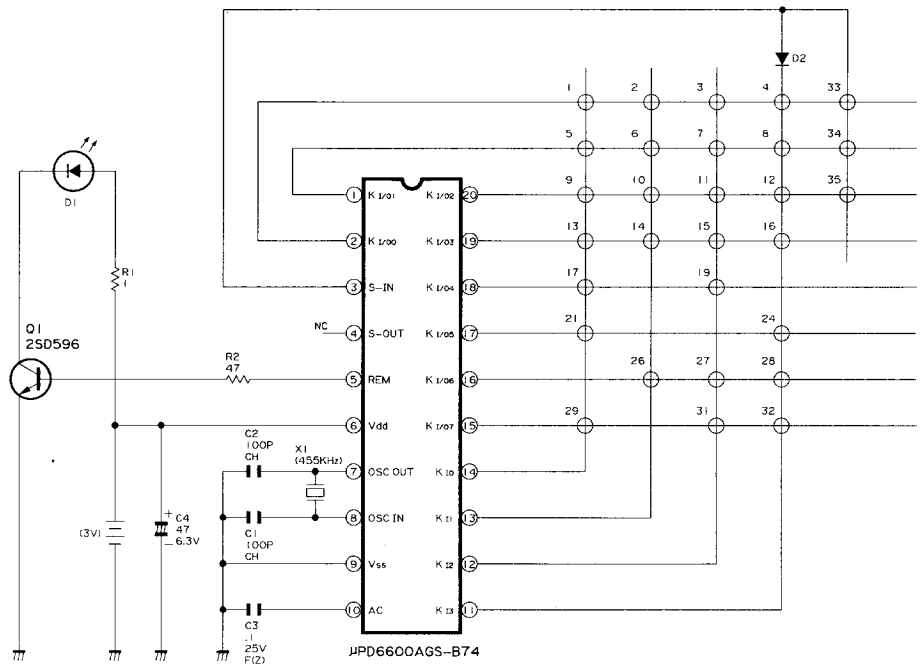


CHASSIS LAYOUT / CHASSISANORDNUNGSPLAN
MODEL/MODELL 20B-SCⒶ



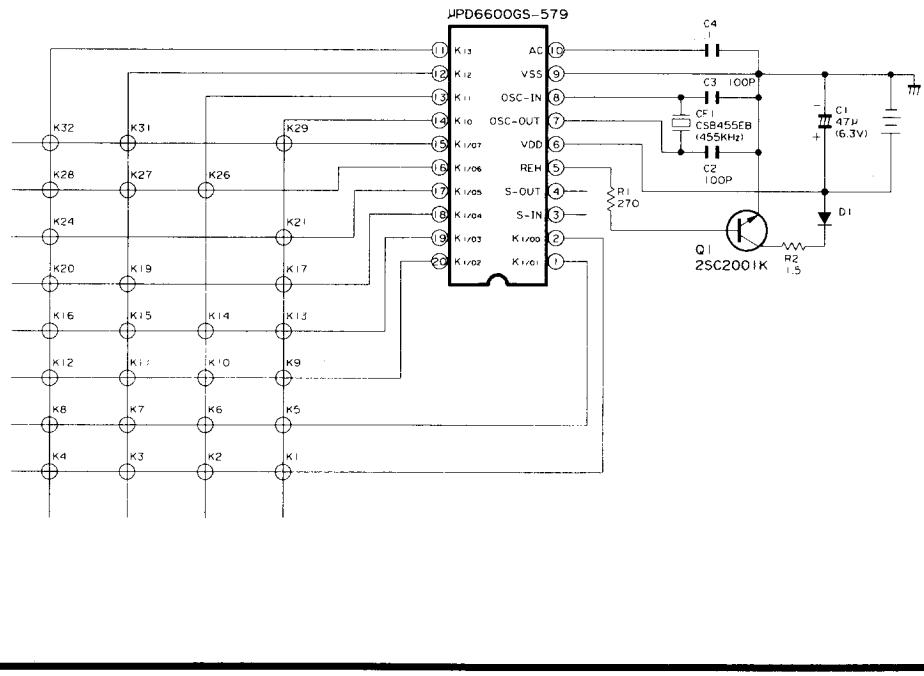
■ Remote Control Unit / Fernbedienungseinheit

RRMCG1076PESA (MODEL/MODELL 14D-SCⒶ)



KEY NO	FUNCTION
35	SYSTEM
34	FINE TUNING ∨
33	FINE TUNING ∧
32	20 + ∨
31	MODE ∧
29	MODE
28	30 +
27	20 +
26	10 +
24	
21	
19	TIMER
17	
16	
15	
14	
13	TV/VIDEO
12	CH ∨
11	CH ∧
10	0
9	9
8	8
7	7
6	6
5	5
4	4
3	3
2	2
1	1

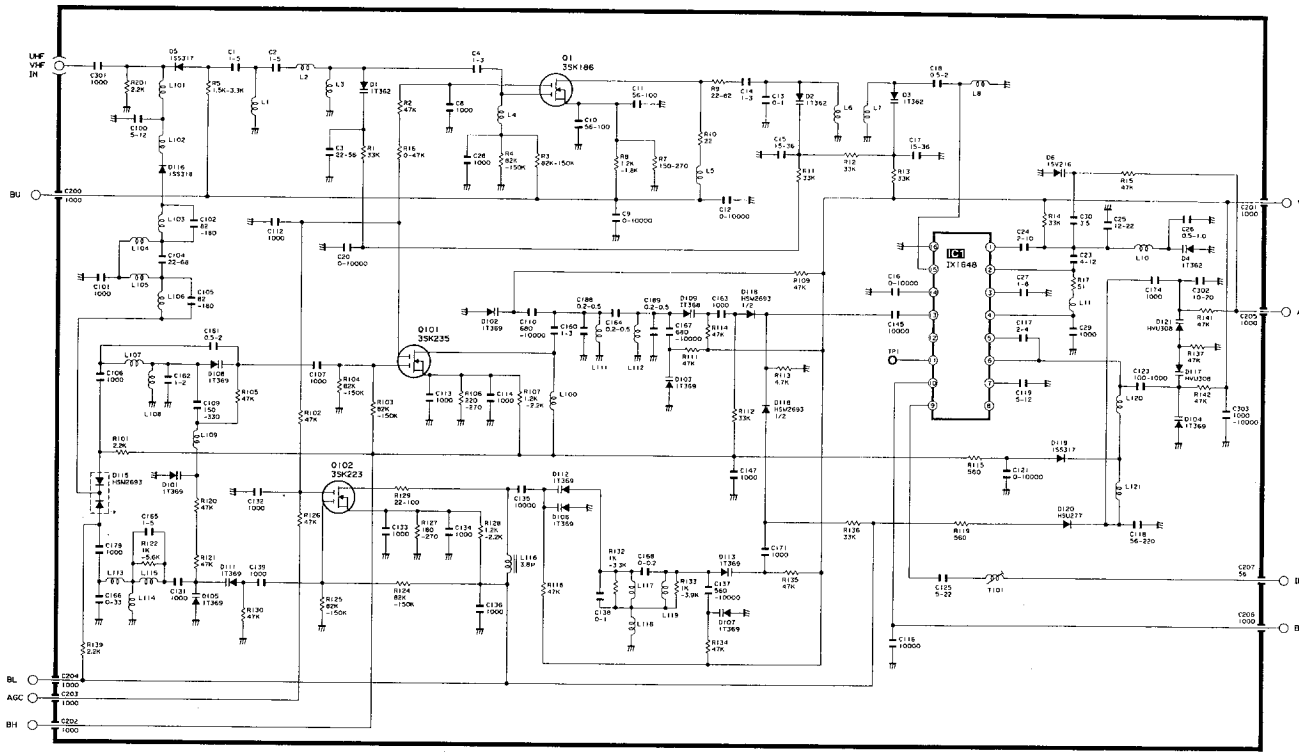
RRMCG0833PESA (MODELS/MODELL 14B-SCⒶ, 20B-SCⒶ)



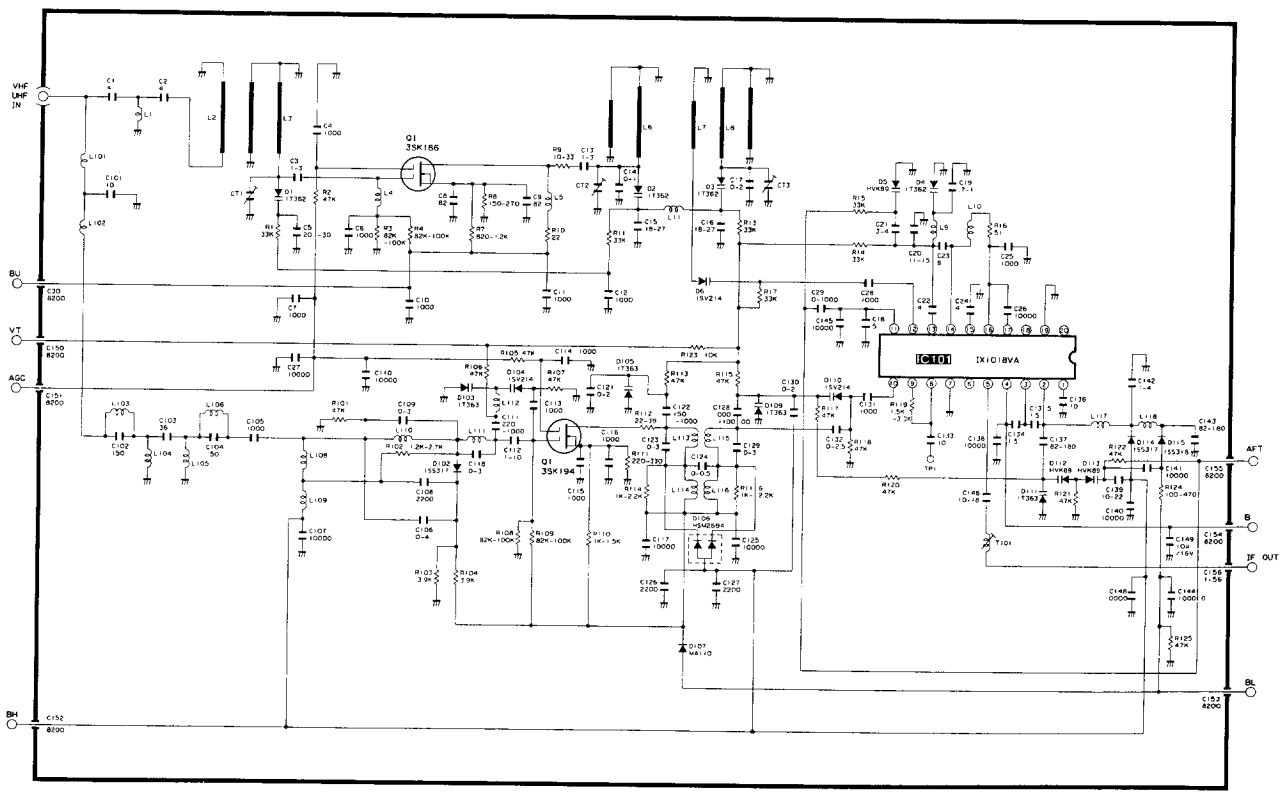
KEY NO	FUNCTION
K32	DOWN ∨
K31	UP ∧
K30	
K29	MODE
K28	30 +
K27	20 +
K26	10 +
K25	
K24	F.B.
K23	
K22	
K21	CALL
K20	OFF
K19	ON
K18	
K17	MUTE
K16	POWER
K15	VOL
K14	VOL
K13	TV/VIDEO
K12	CH ∨
K11	CH ∧
K10	0
K9	9
K8	8
K7	7
K6	6
K5	5
K4	4
K3	3
K2	2
K1	1

■ Tuner

⚠ VTUVTSH6HD02/ (MODEL/MODELL 14D-SCⒶ)



⚠ VTUVTSS6O2/// (MODELS/MODELL 14B-SCⒶ and 20B-SCⒶ)



DESCRIPTION OF SCHEMATIC DIAGRAM

SAFETY NOTE:

1. *DISCONNECT THE AC PLUG FROM THE AC OUTLET BEFORE REPLACEING PARTS.*
2. *SEMICONDUCTOR HEAT SINKS SHOULD BE REGARDED AS POTENTIAL SHOCK HAZARDS WHEN THE CHASSIS IS OPERATING.*

IMPORTANT SAFETY NOTICE:

PARTS MARKED WITH "⚠" (▒▒▒▒▒▒▒▒) ARE IMPORTANT FOR MAINTAINING THE SAFETY OF THE SET. BE SURE TO REPLACE THESE PARTS WITH SPECIFIED ONES FOR MAINTAINING THE SAFETY AND PERFORMANCE OF THE SET.

SERVICE PRECAUTION:

THE AREA ENCLOSED BY THIS LINE (▬ ▪ ▬) IS DIRECTLY CONNECTED WITH AC MAINS VOLTAGE.
WHEN SERVICING THE AREA, CONNECT AN ISOLATING TRANSFORMER
BETWEEN TV RECEIVER AND AC LINE TO ELIMINATE HAZARD OF ELECTRIC SHOCK.

NOTE:

1. *The unit of resistance "ohm" is omitted (K = 1000 ohms, M = Megaohm).*
2. *All resistors are 1/8 watt, unless otherwise noted.*
3. *All capacitors are μF, unless otherwise noted (P = μμF).*

VOLTAGE MEASUREMENT CONDITIONS:

1. *Voltages in parenthesis measured with no Signal.*
2. *Voltages without parenthesis measured with 3mV B & W or Colour-Signal.*
3. *All the voltages in each point are measured with VTVM.*

WAVEFORM MEASUREMENT CONDITIONS:

1. *Colour bar generator signal of 2.2 V peak to peak applied at pin (52) of IC801.*
2. *Approximately 4.0 V AGC bias.*

CAUTION:

This circuit diagram is original one, therefore there may be a slight difference from yours.

BESCHREIBUNG DES SCHEMATISCHEN SCHALTPLANS

SICHERHEITSANMERKUNGEN:

1. *VOR DEM AUSWECHSELN VON TEILEN MUSS UNBEDINGT NETZSTECKER AUS DER NETZSTECKDOSE GEZOGEN WERDEN.*
2. *DIE WARMEABLEITER DER HALBLEITER SOLLTEN BEIM BETRIEB DES CHASSIS ALS MÖGLICHE URSACHEN VON GEFÄHRLICHEN ELEKTRISCHEN SCHLÄGEN BETRACHTET WERDEN.*

WICHTIGE SICHERHEITSANMERKUNGEN:

MIT "⚠" (▒▒▒▒▒▒▒▒) BEZEICHNETEN TEILE SIND BESONDERS WICHTIG FÜR DIE AUFRECHTERHALTUNG DER SICHERHEIT. BEIM WECHDIESER TEILE SOLLTEN DIE VORGESCHRIEBENEN TEILE IMMER VERWENDET WERDEN, UM SOWOHL DIE SICHERHEIT ALS AUCH DIE LEISTUNG DES GERÄTES AUFRECHTZUERHALTEN.

VORSICHTSMASSREGEL BEI DER WARTUNG:

DAß MIT DIESER LINIE (▬ ▪ ▬) EINGEFAßTE GEBIET IST DIREKT AN DER WECHSELSPANNUNG ANGESCHLOSSEN. BEI DER WERTUNG DES GEBIETES EINEN TRENNTRANSFORMATOR ZWISCHEN FERNSEHGERÄT SCHLAGE ZU VERMEIDEN.

ANMERKUNG:

1. *Der Widerstandswert "Ohm" wurde in den Plän ausgelassen (k = 1000 Ohms, M = Megaohm).*
2. *Falls nicht anders angegeben, handlet es sich bei den Widerstanden um 1/8 Watt-Auührunge.*
3. *Falls nicht anders angegeben, handelt es sich bei den Kondensatoren um μF-Typen (p = μμF).*

SPANNUNGSMESSUNGEN:

1. *In Klammen eingeschlossene Spannungswerte werden ohne Signal gemessen.*
2. *Nicht in Klammern eingeschlossene Spannungswerte werden mit einem 3mV S/W-oder Farbsignal gemessen.*
3. *Alle Spannungswerte werden mit einem Va-SEL kuumöhre-Volt-meter gemessen.*

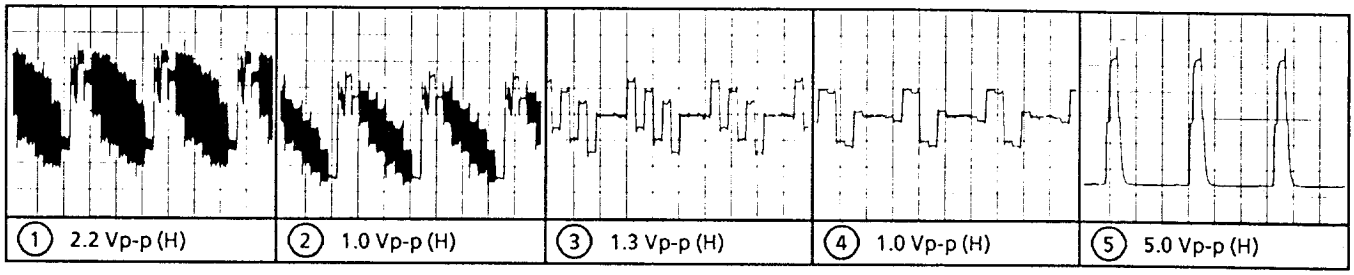
SIGNALFORMMESSUNGEN:

1. *Das Farbbalkensignal von 2.2 V Spitze zu Spitze wird dem Stift (52) von IC801 zugeleitet.*
2. *Ungefähr 4,0V AGC-Vorspannung.*

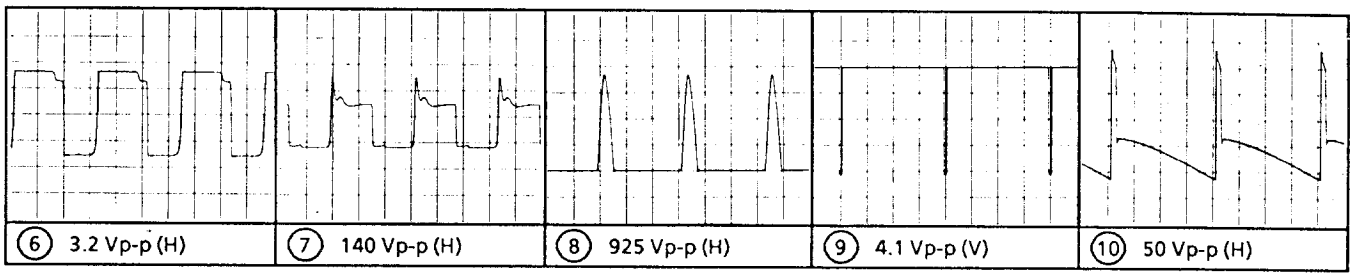
ACHTUNG:

bei diesem Schaltplan handelt es sich um den ursprünglichen. Esönnen daher geringfügige Unterschiede zu dem Ihrem bestehen.

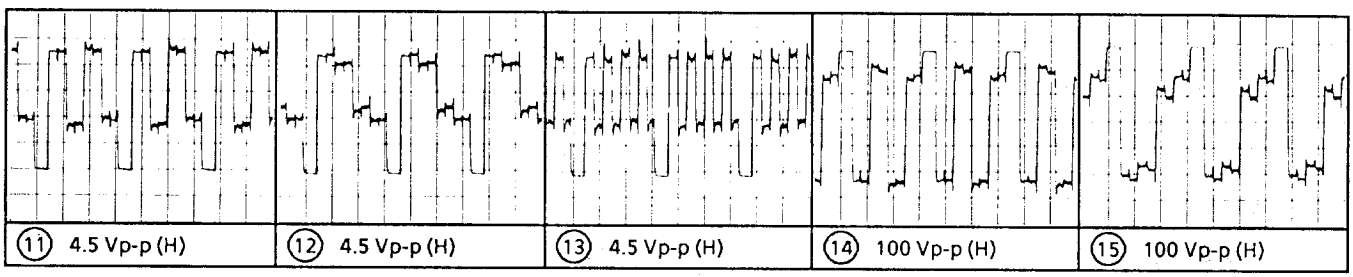
WAVEFORMS
WELLENFORMEN



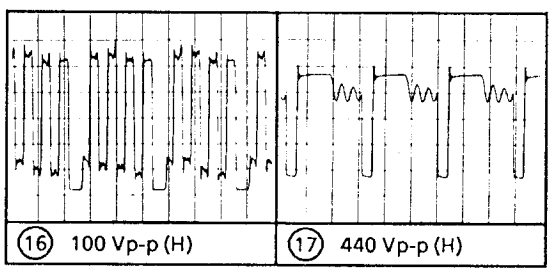
① 2.2 Vp-p (H) ② 1.0 Vp-p (H) ③ 1.3 Vp-p (H) ④ 1.0 Vp-p (H) ⑤ 5.0 Vp-p (H)



⑥ 3.2 Vp-p (H) ⑦ 140 Vp-p (H) ⑧ 925 Vp-p (H) ⑨ 4.1 Vp-p (V) ⑩ 50 Vp-p (H)



⑪ 4.5 Vp-p (H) ⑫ 4.5 Vp-p (H) ⑬ 4.5 Vp-p (H) ⑭ 100 Vp-p (H) ⑮ 100 Vp-p (H)

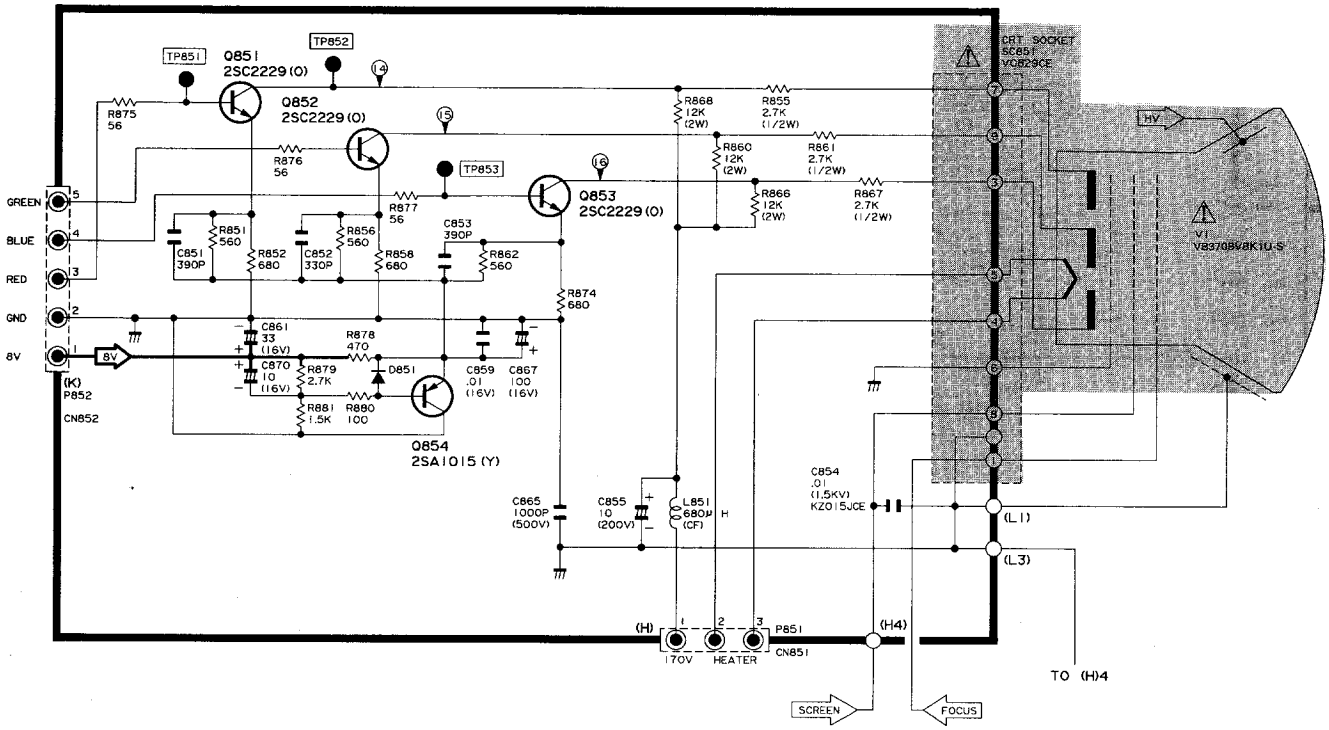


⑯ 100 Vp-p (H) ⑰ 440 Vp-p (H)

SCHEMATIC DIAGRAM

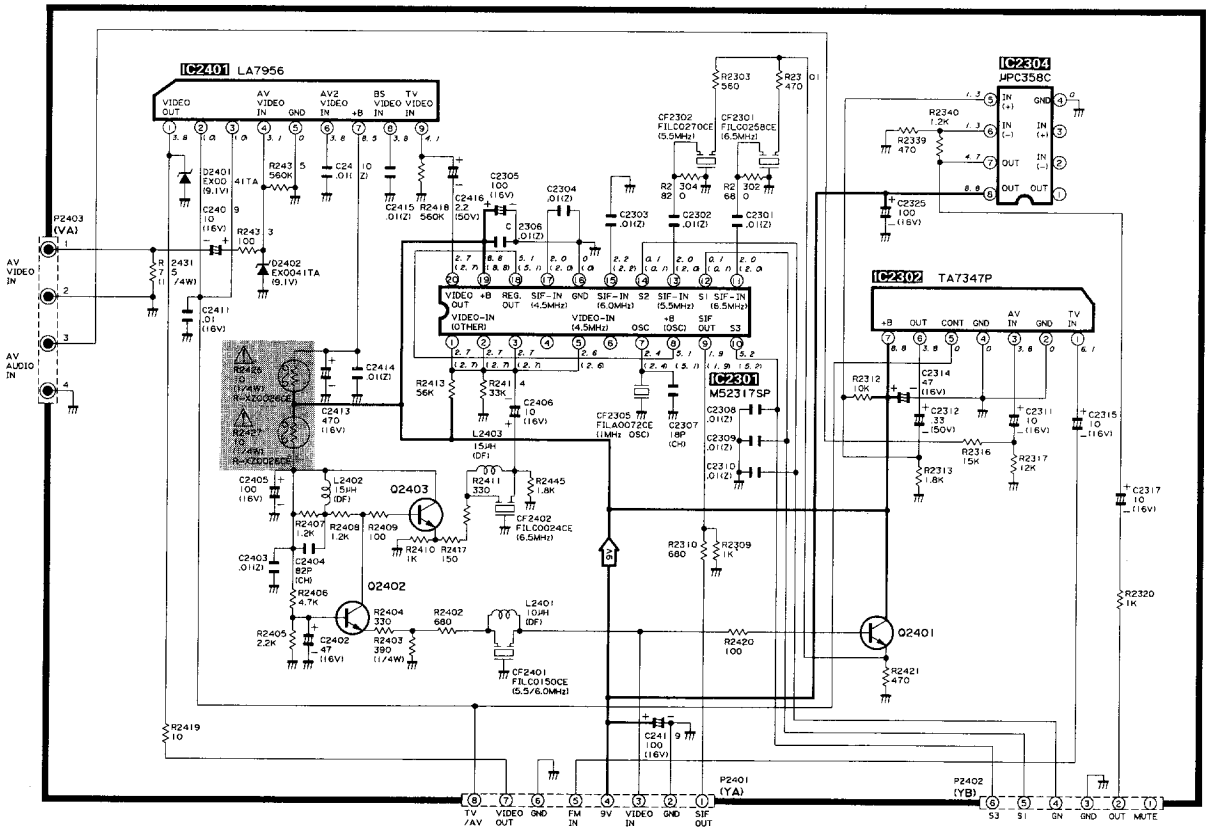
■ CRT Socket Unit / Bildröhrenplatine (14D-SCⒶ, 14B-SCⒶ)

PWB–C
DUNTK8598WEV0/1



■ AV Unit / AV-Einheit (14D-SCⒶ)

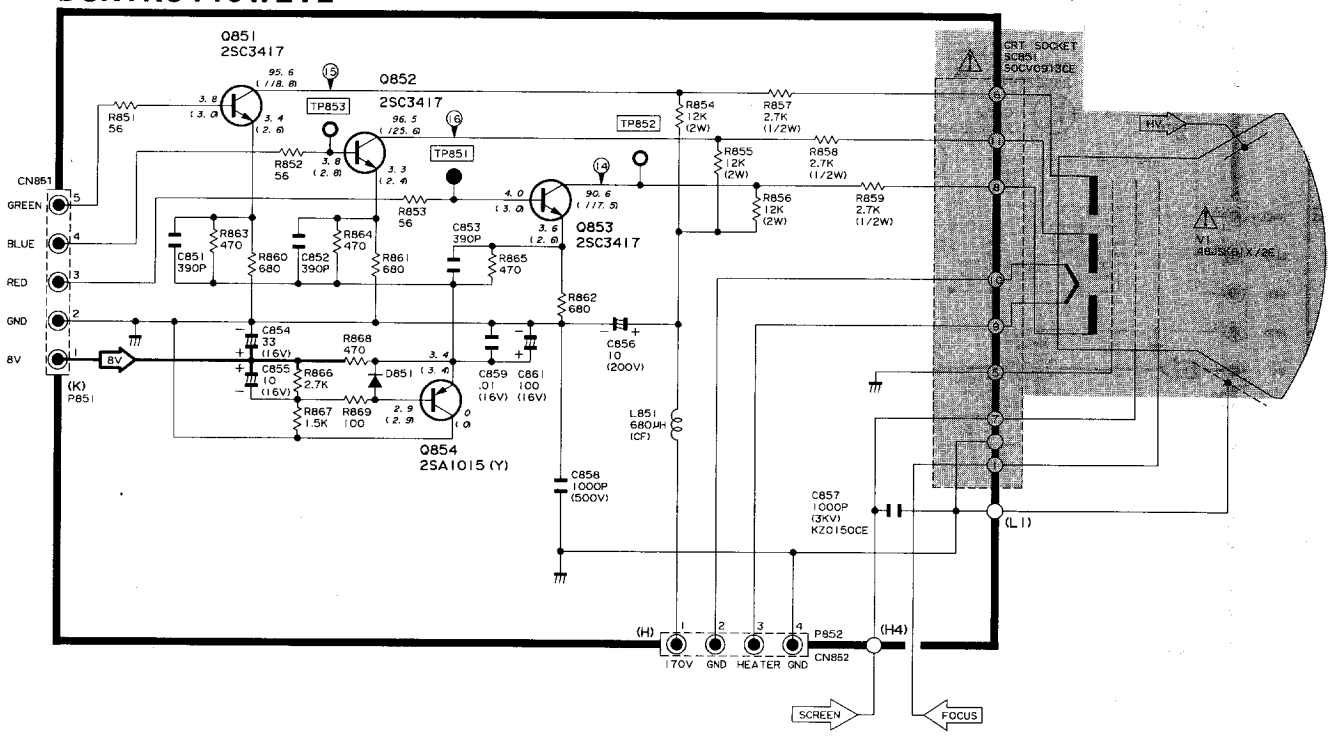
PWB–D
DUNTK8599WEV2



SCHEMATIC DIAGRAM / SCHEMATISCHER SCHALTPLAN

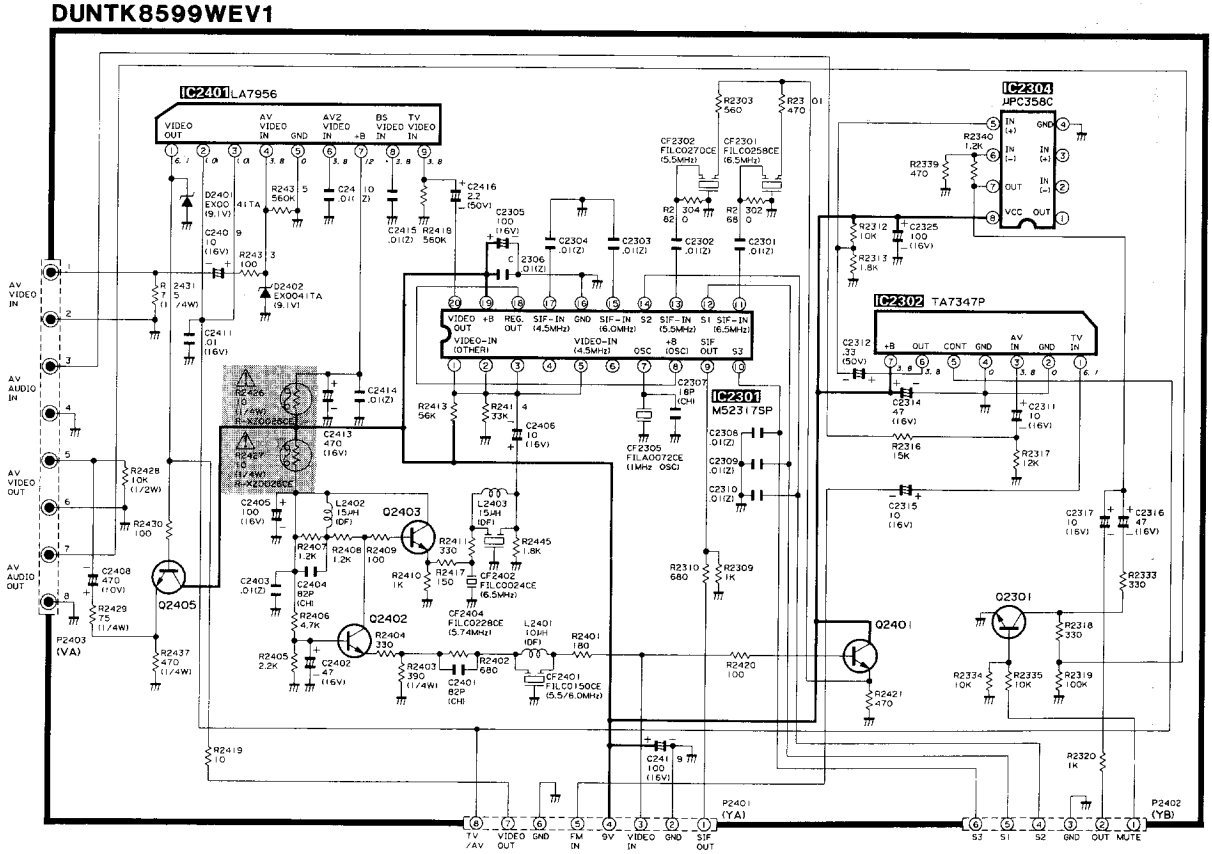
■ CRT Socket Unit / Bildröhrenplatine (20B-SCⒶ)

PWB−C
DUNTK8446WEV2



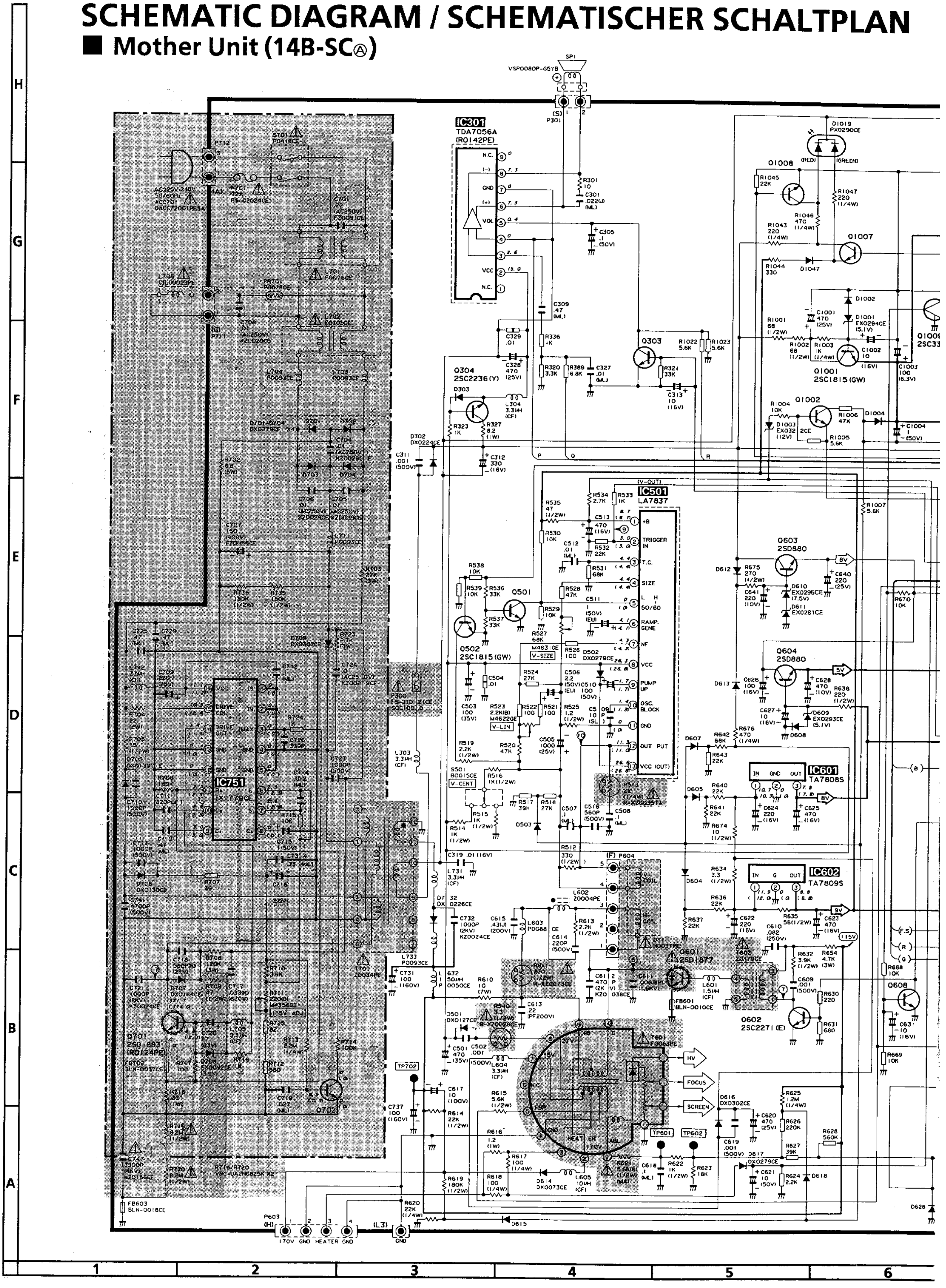
■ AV Unit / AV-Einheit (14B-SCⒶ, 20B-SCⒶ)

PWB−D
DUNTK8599WEV1



SCHEMATIC DIAGRAM / SCHEMATISCHER SCHALTPLAN

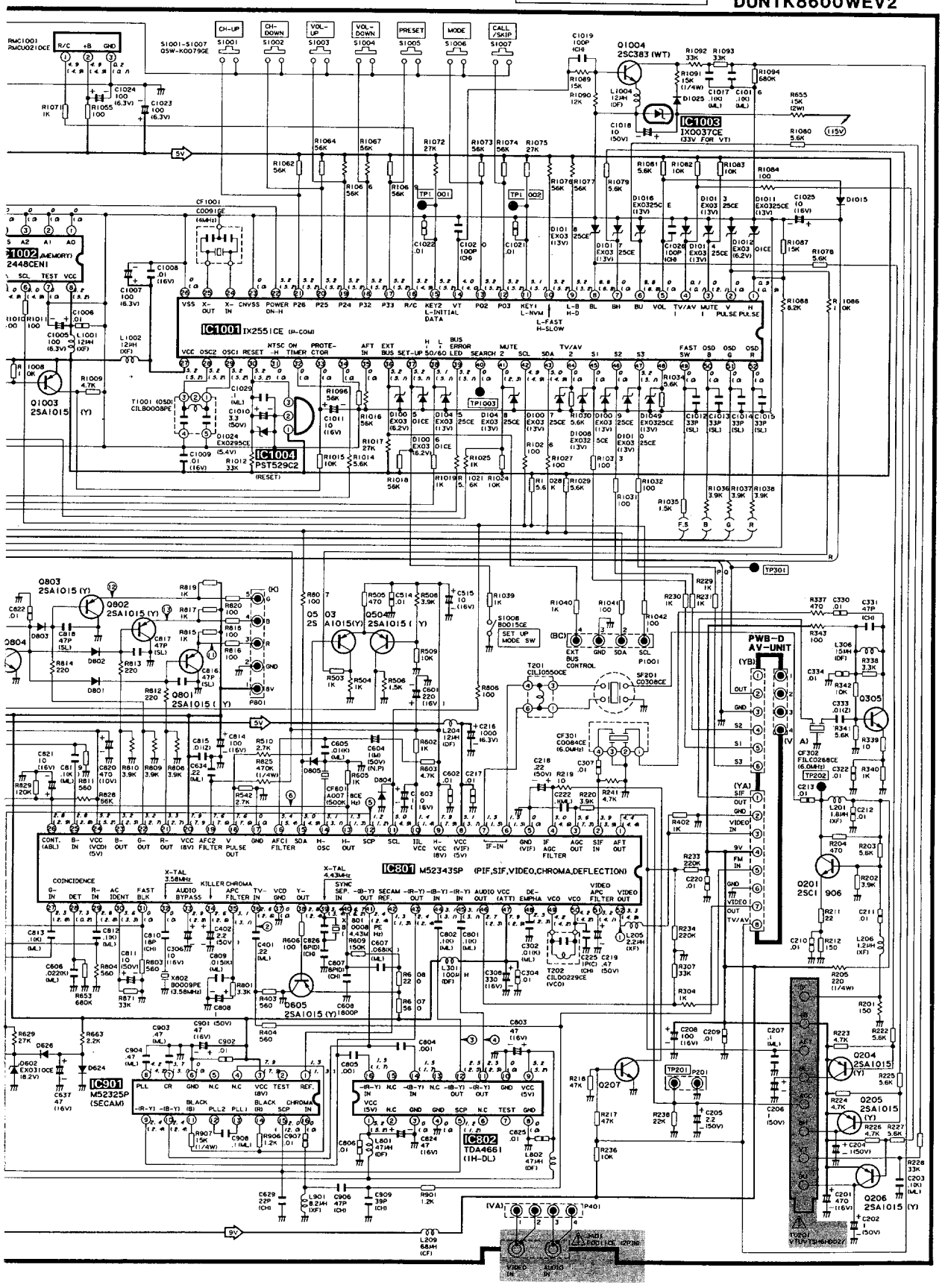
■ Mother Unit (14B-SCⒶ)



IC301
TDA7056A
(R0142PE)
IC501
LA7837
IC601
TA7808S
IC602
TA7809S
IC751
IX1779CE
Q701
2SD1883
(R0124PE)
Q702
Q601
2SD1877
Q602
2SC2271 (E)
Q603
2SD880
Q604
2SD880
Q1001
2SC1815 (GW)
Q304
2SC2236 (Y)
Q502
2SC1815 (GW)
T601
F0063PE
HV
FOCUS
SCREEN
P603
170V
GND
HEATER
GND
TP601
TP602
TP702

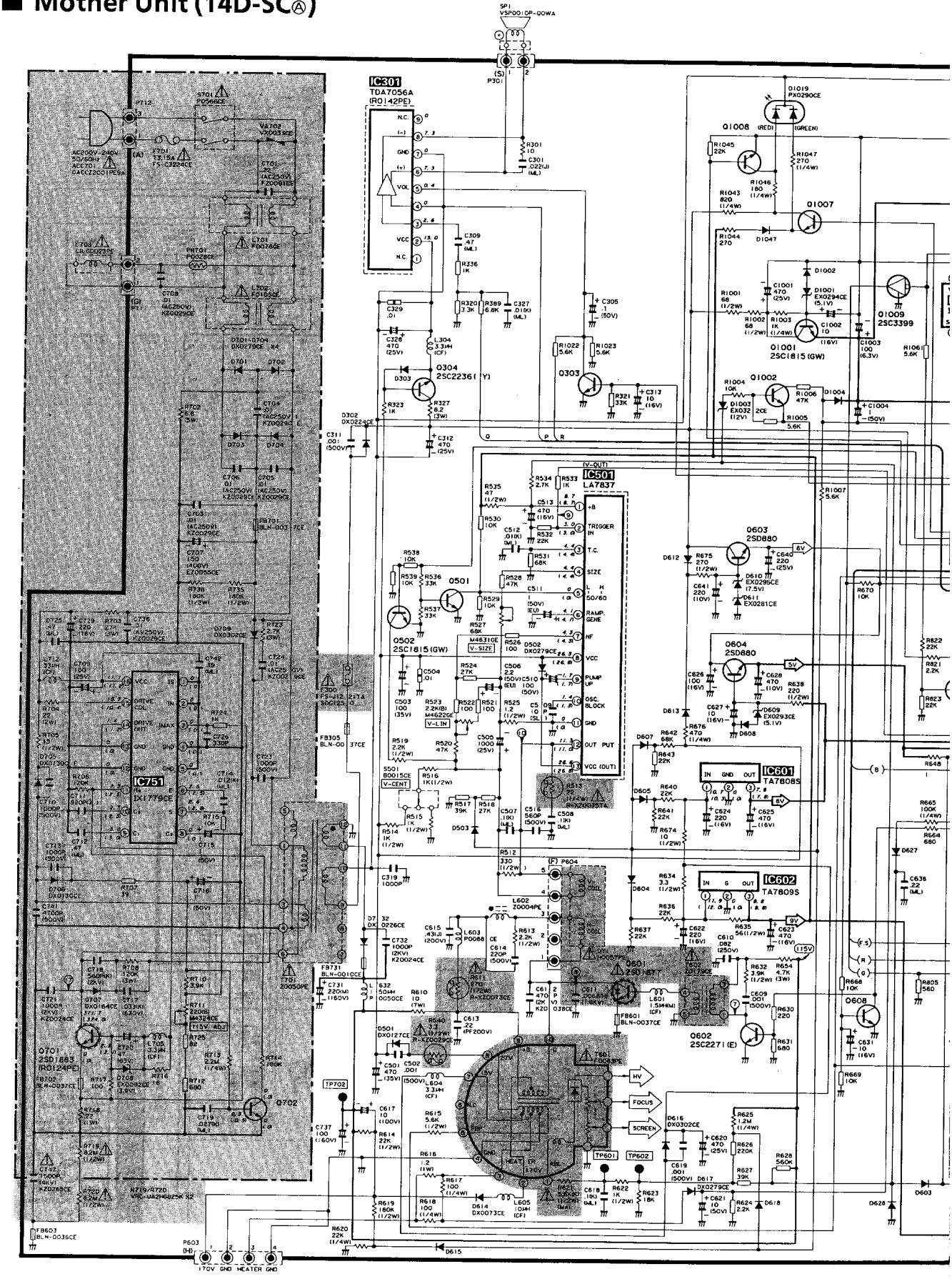
NOTE: ALL TRANSISTORS ARE 2SC945 AND ALL DIODES ARE 1SS119, UNLESS OTHERWISE NOTED.

PWB–A
DUNTK8600WEV2



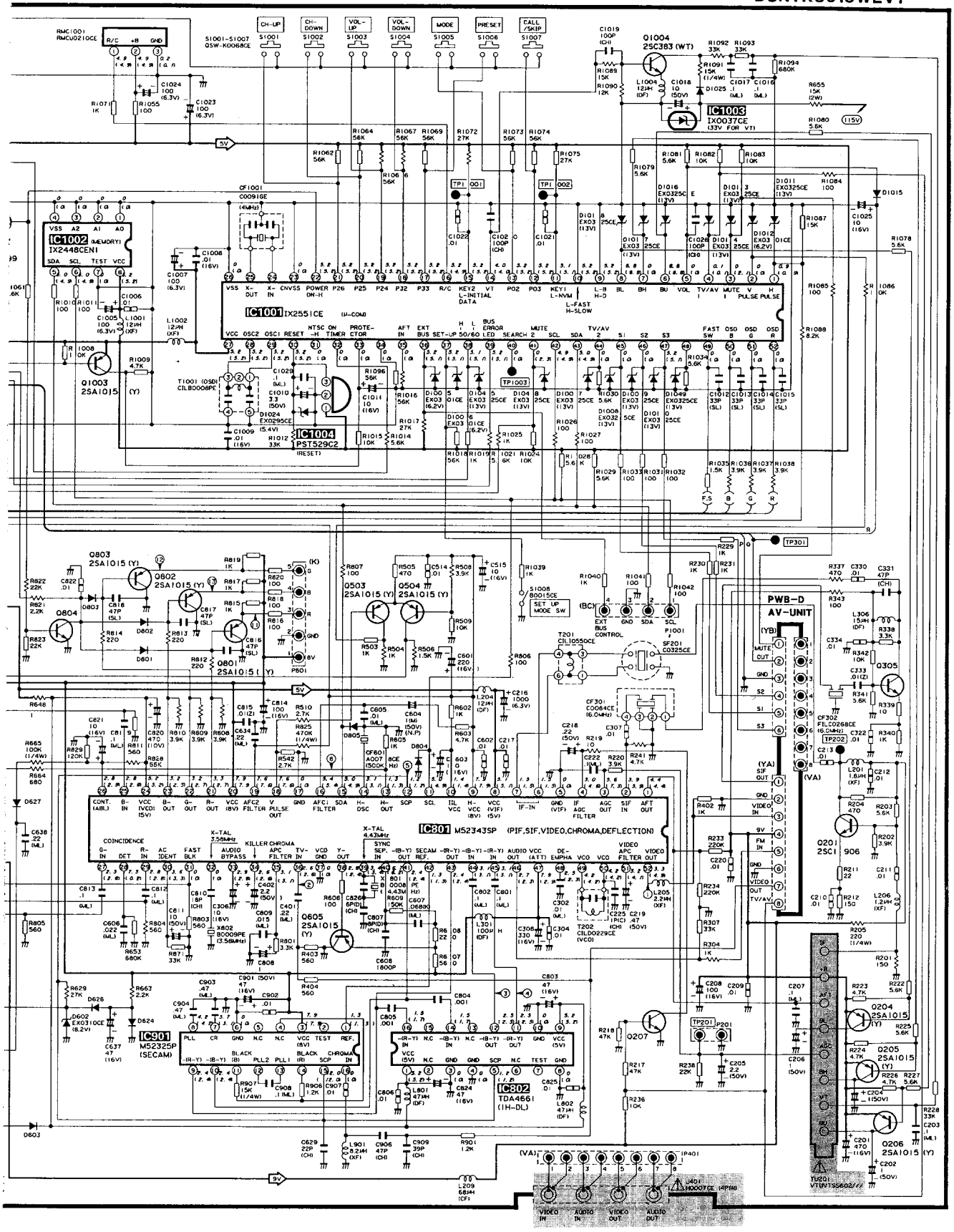
SCHEMATIC DIAGRAM / SCHEMATISCHER SCHALTPLAN

■ Mother Unit (14D-SCⒶ)



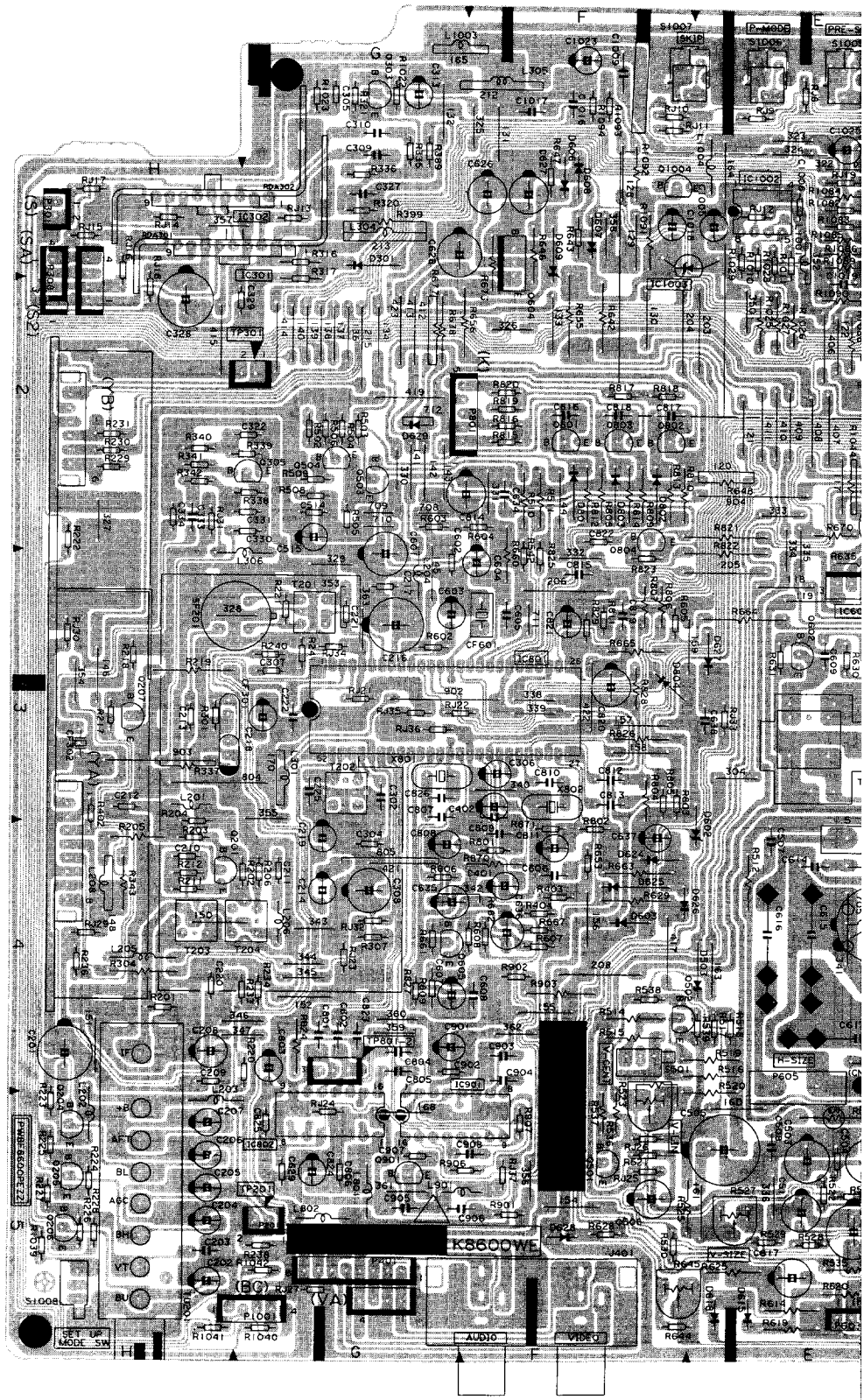
NOTE: ALL TRANSISTORS ARE 2SC945 AND ALL DIODES ARE 1SS119, UNLESS OTHERWISE NOTED.

PWB—A
DUNTK8615WEV1



7	8	9	10	11	12

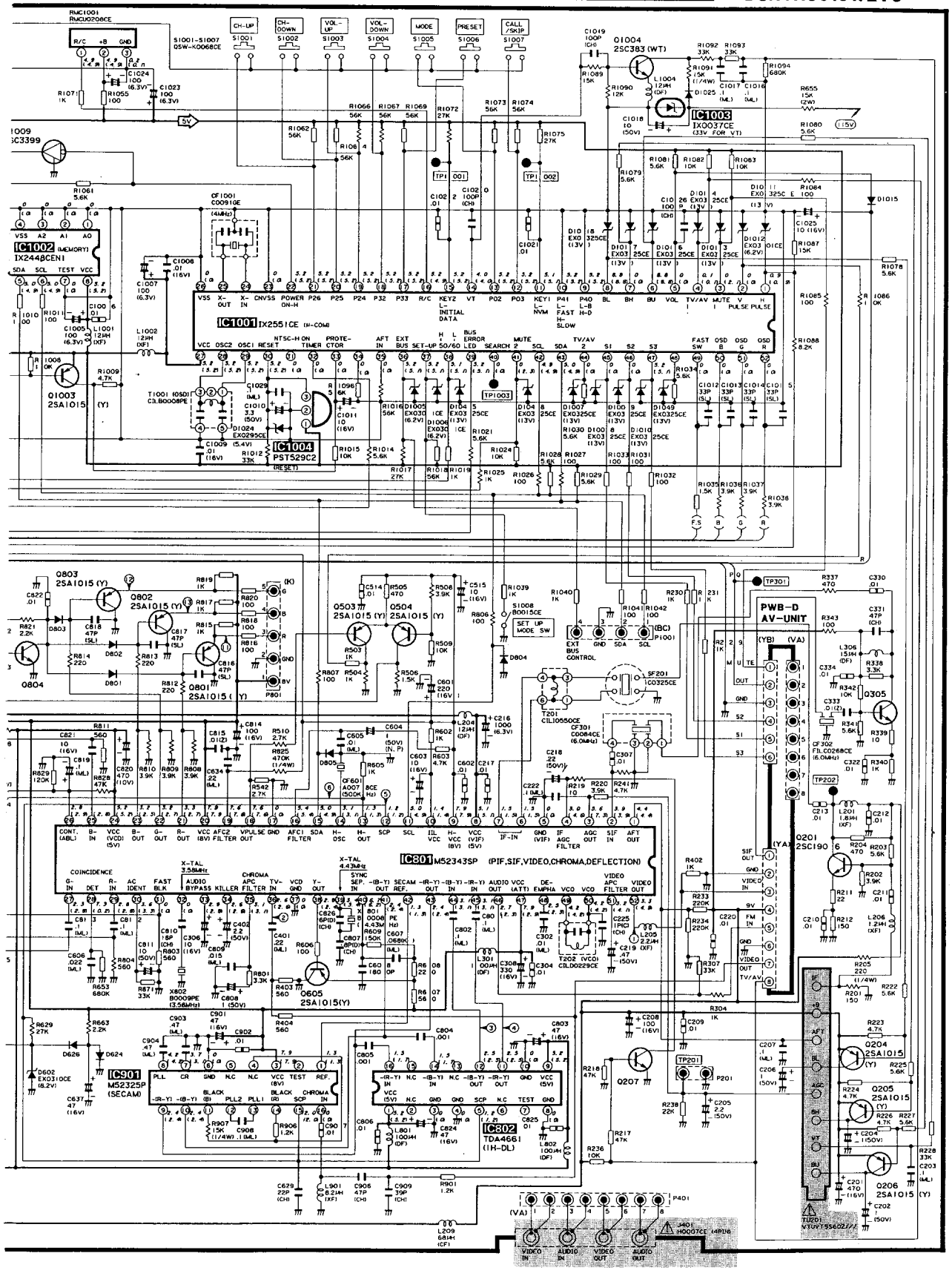
PRINTED WIRING BOARD ASSEMBLIES
(All the PWBs here are shown as viewed from their wiring sides.)
LEITERPLATTENEINHEITEN
(Alle hier gezeigten Platten sind von der Leiterbahnseite aus gesehen.)



PWB-A: Mother Unit / Hauptplatine
(14D-SCⒶ)

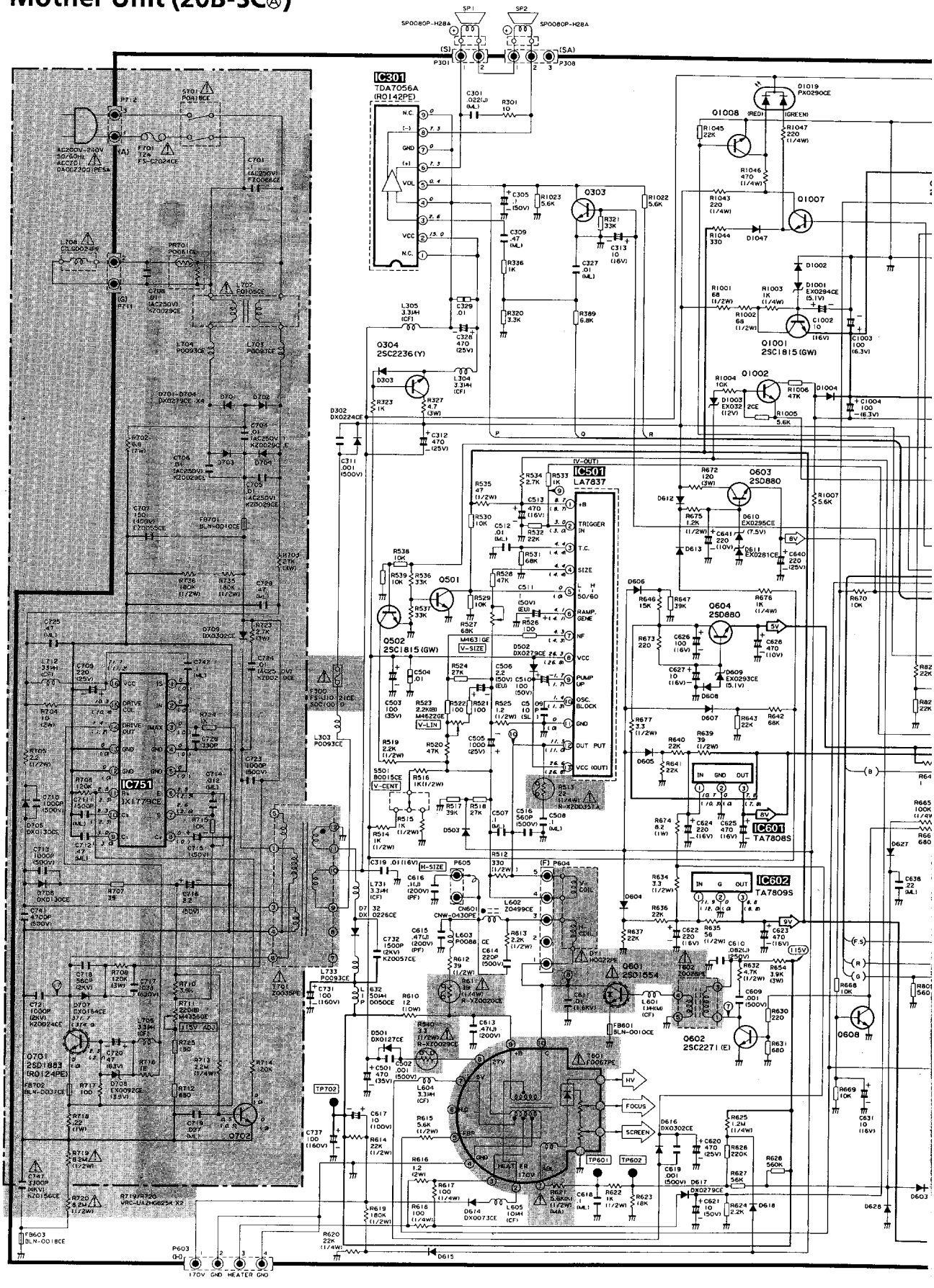
NOTE: ALL TRANSISTORS ARE 2SC945 AND ALL DIODES ARE 1SS119, UNLESS OTHERWISE NOTED.

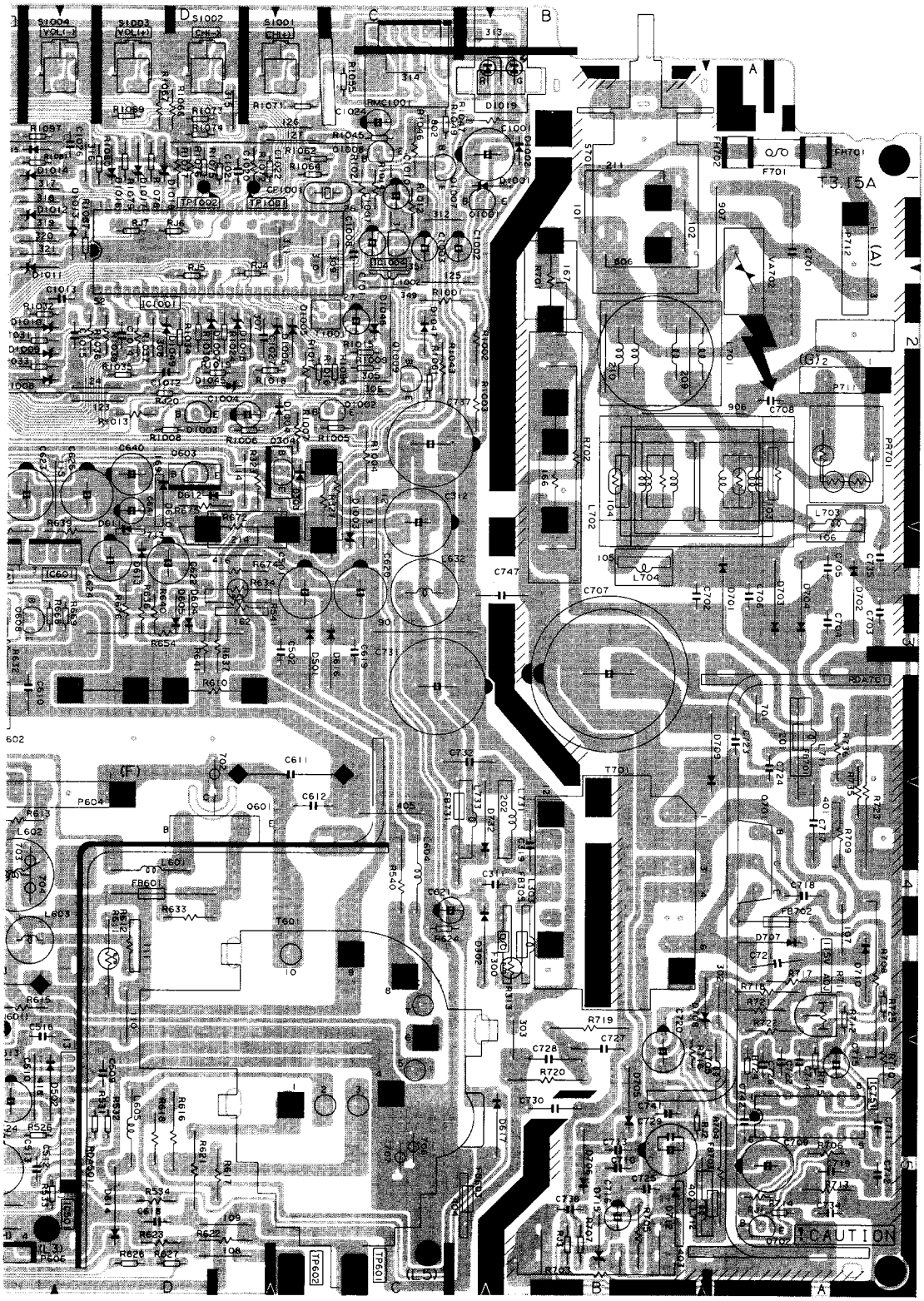
PWB–A
DUNTK8615WEV0

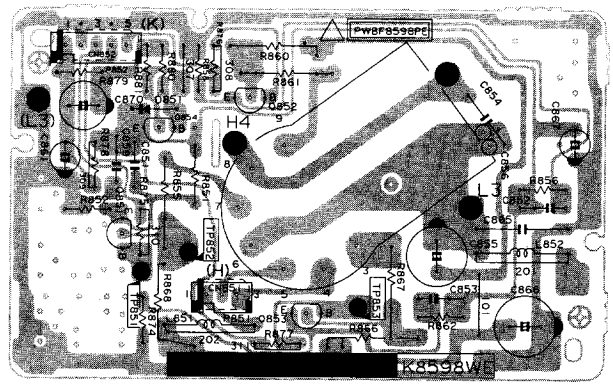


SCHEMATIC DIAGRAM / SCHEMATISCHER SCHALTPLAN

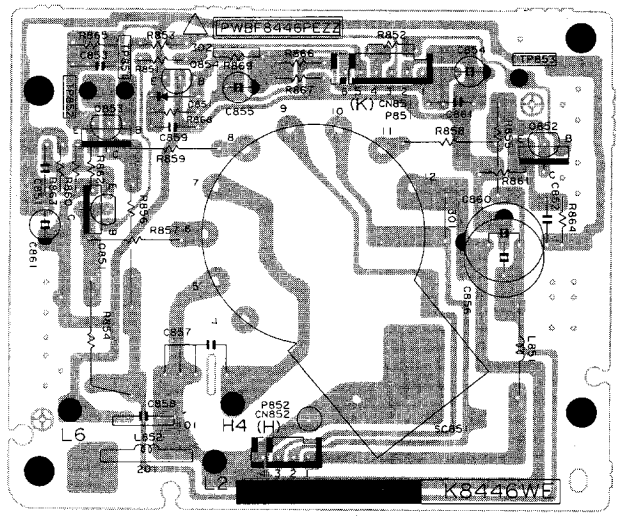
■ Mother Unit (20B-SCⒶ)



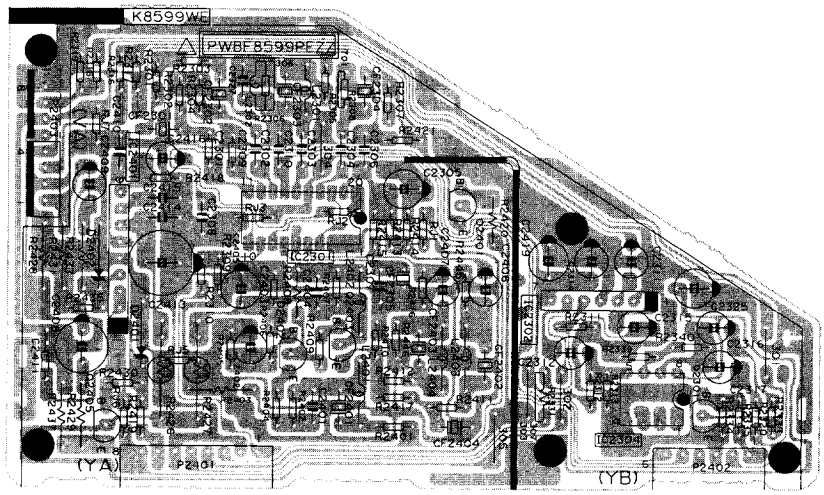

S1004
VOL(-)
S1003
VOL(+)
S1002
CH(-)
S1001
CH(+)
F701
T3.15A
CAUTION



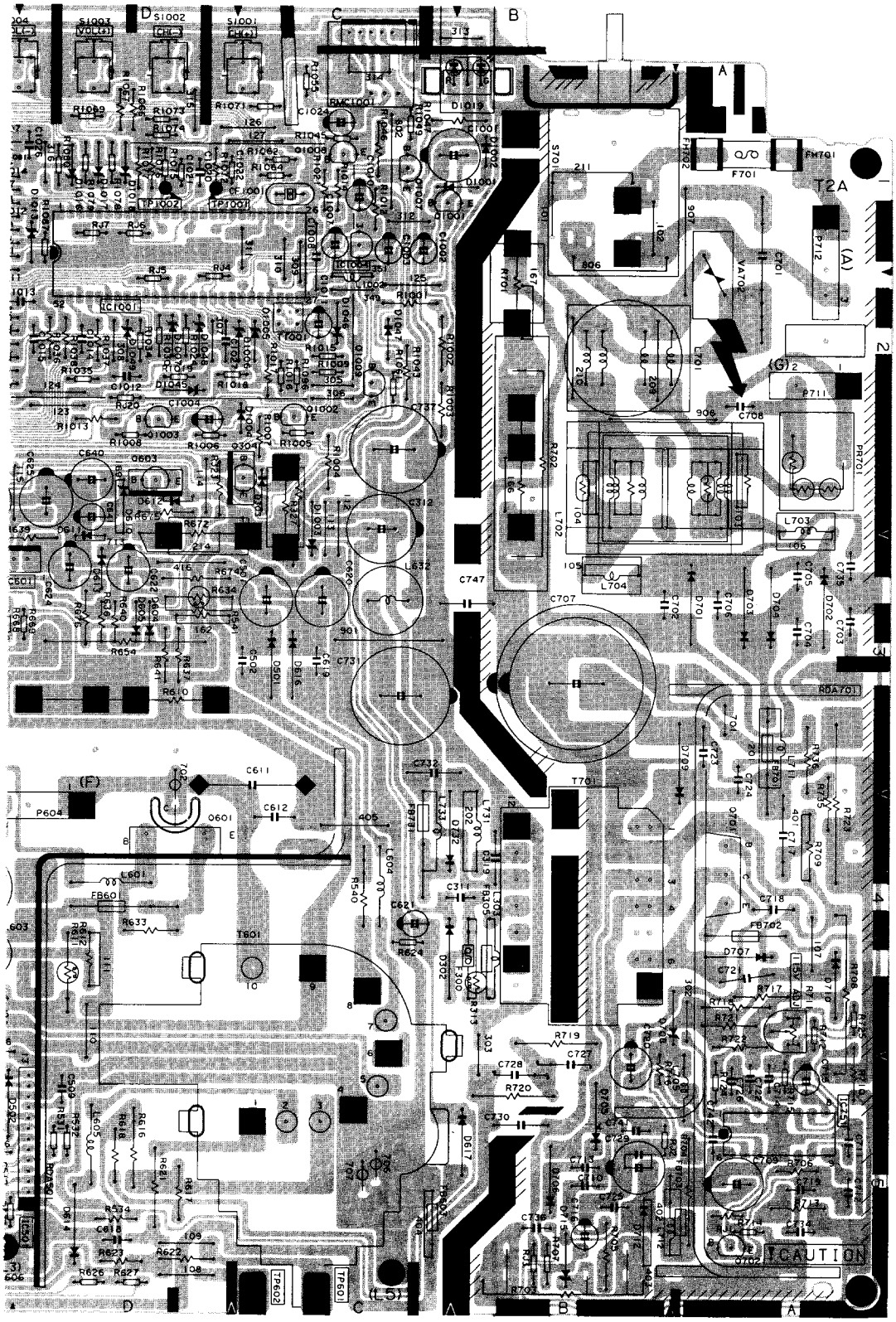
PWB-C: CRT Socket Unit / Bildröhrenplatine (14D-SCⒶ, 14B-SCⒶ)



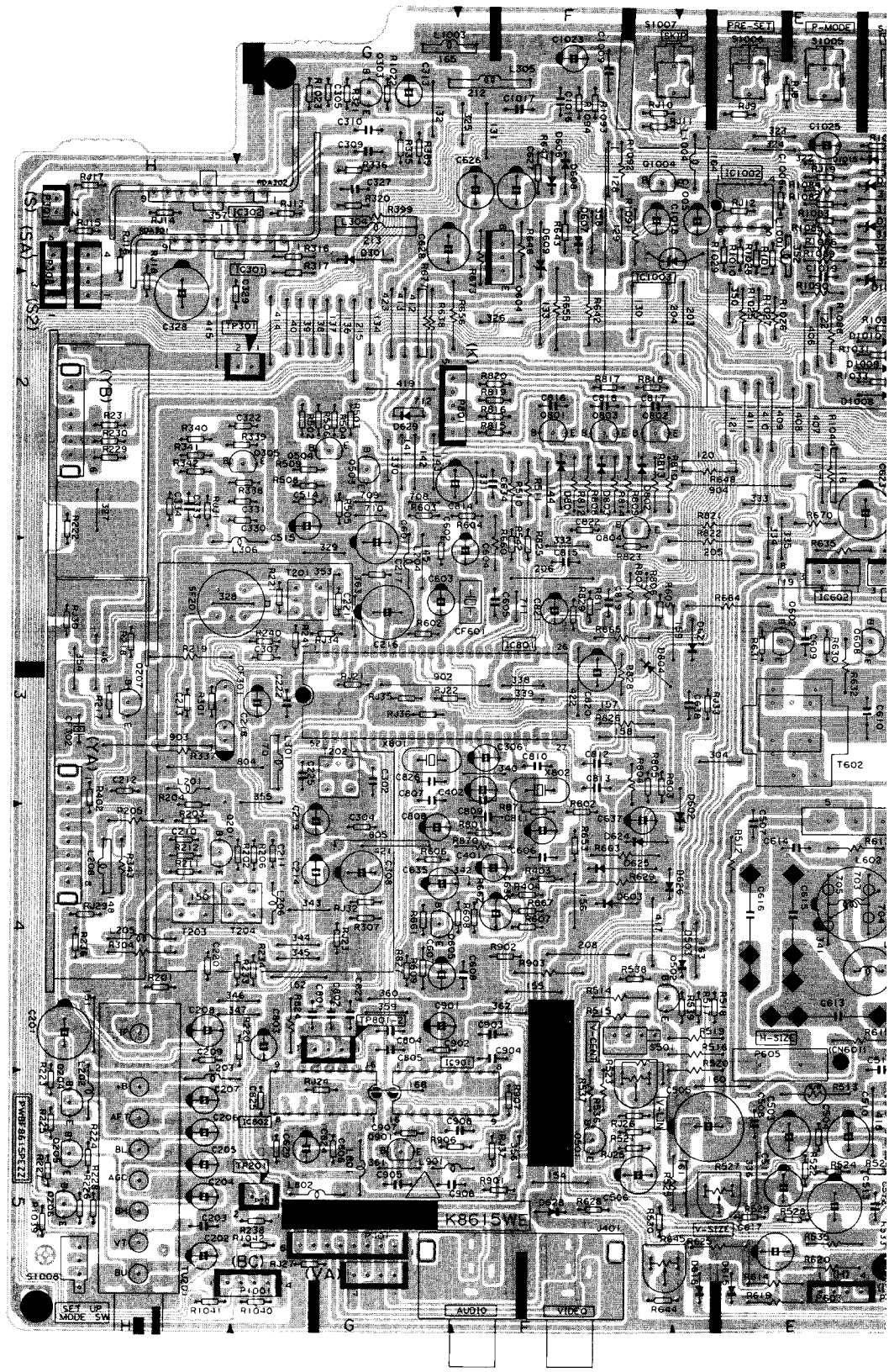
PWB-C: CRT Socket Unit / Bildröhrenplatine (20B-SCⒶ)



PWB-D: AV Unit / AV-Einheit



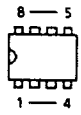
7	8	9	10	11	12



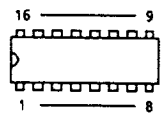
PWB-A: Mother Unit / Hauptplatine
(14B-SCⒶ, 20B-SCⒶ)

SOLID STATE DEVICE BASE DIAGRAM
GRUNDDIAGRAM DER FESTKÖRPEREINRICHTUNG

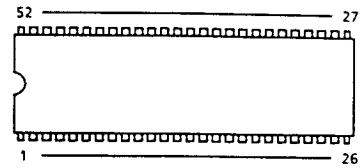
TOP VIEW / AUFSICHT



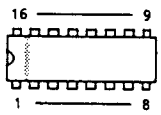
iX2448CE
UPC358C



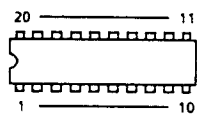
iX1779CE



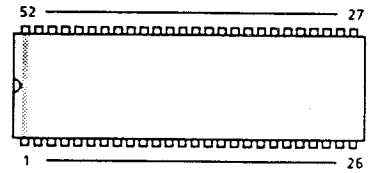
iX2551CE



M52325P

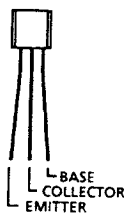


M52317SP
TDA4661

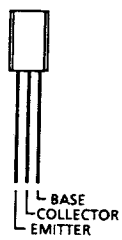


M52343SP

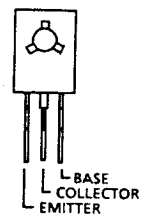
SIDE VIEW / SEITENANSECHT



2SA1015
2SC1815
2SC1906
2SC383
2SC945

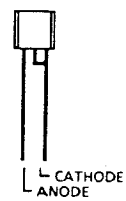


2SC2229
2SC2236
2SC2271



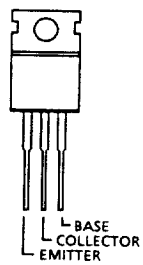
2SC3417

PST529C2

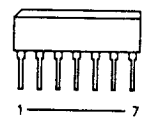


iX0037CE

2SC3399



2SD880



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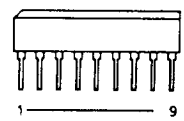
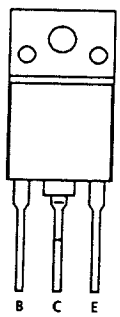
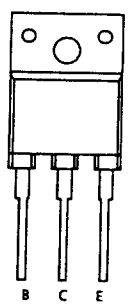


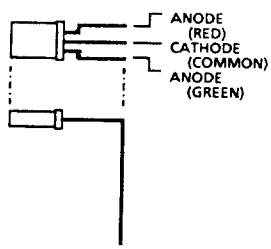
LA7956



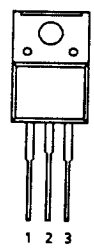
2SD1554
2SD1877



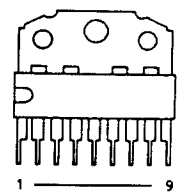
2SD1883



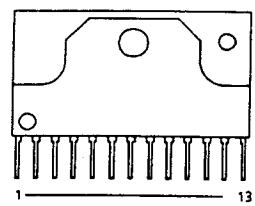
PX0290CE



TA7808S
TA7809S



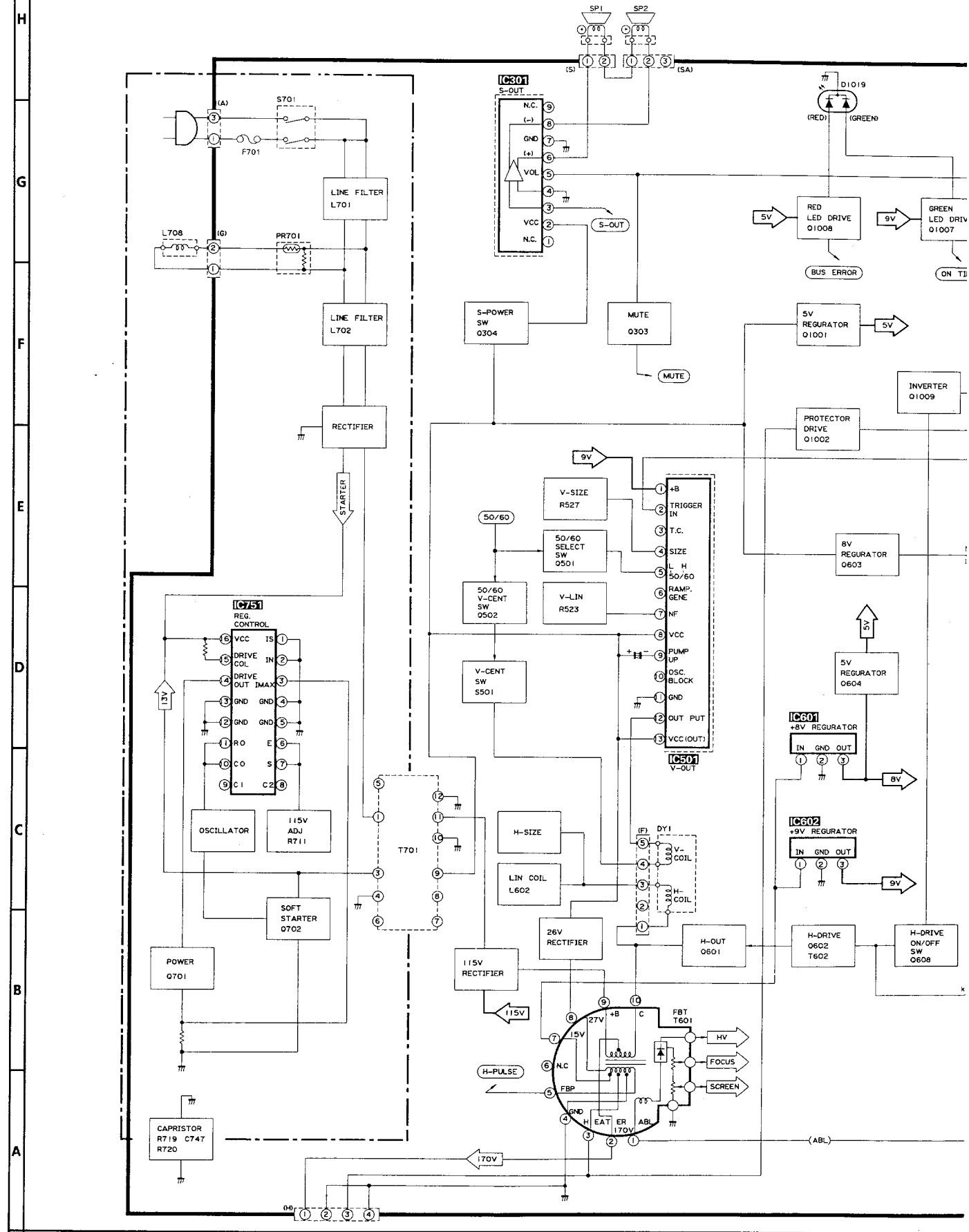
TDA7056A

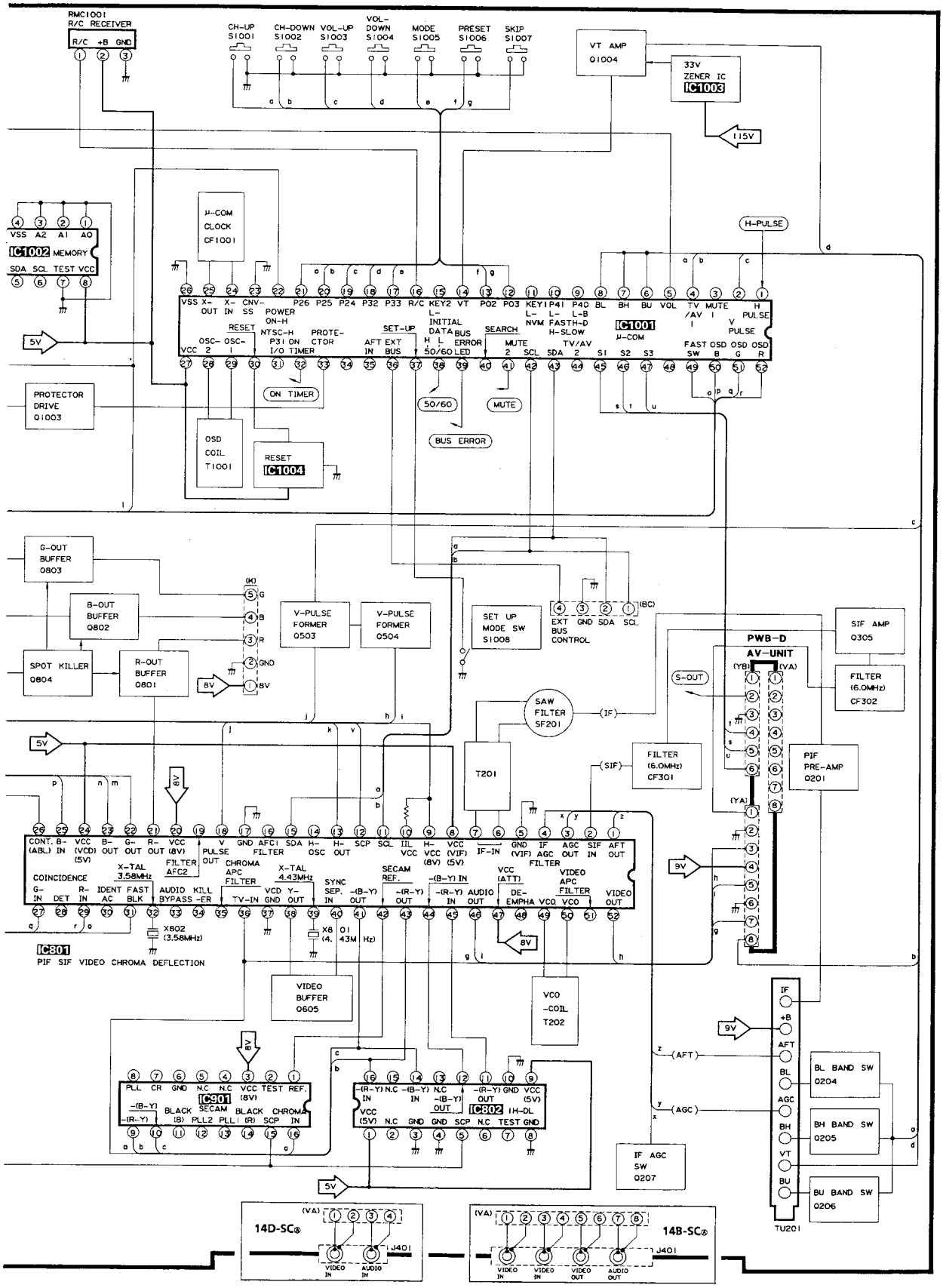


LA7837

BLOCK DIAGRAM / BLOCKSCHALTPLAN

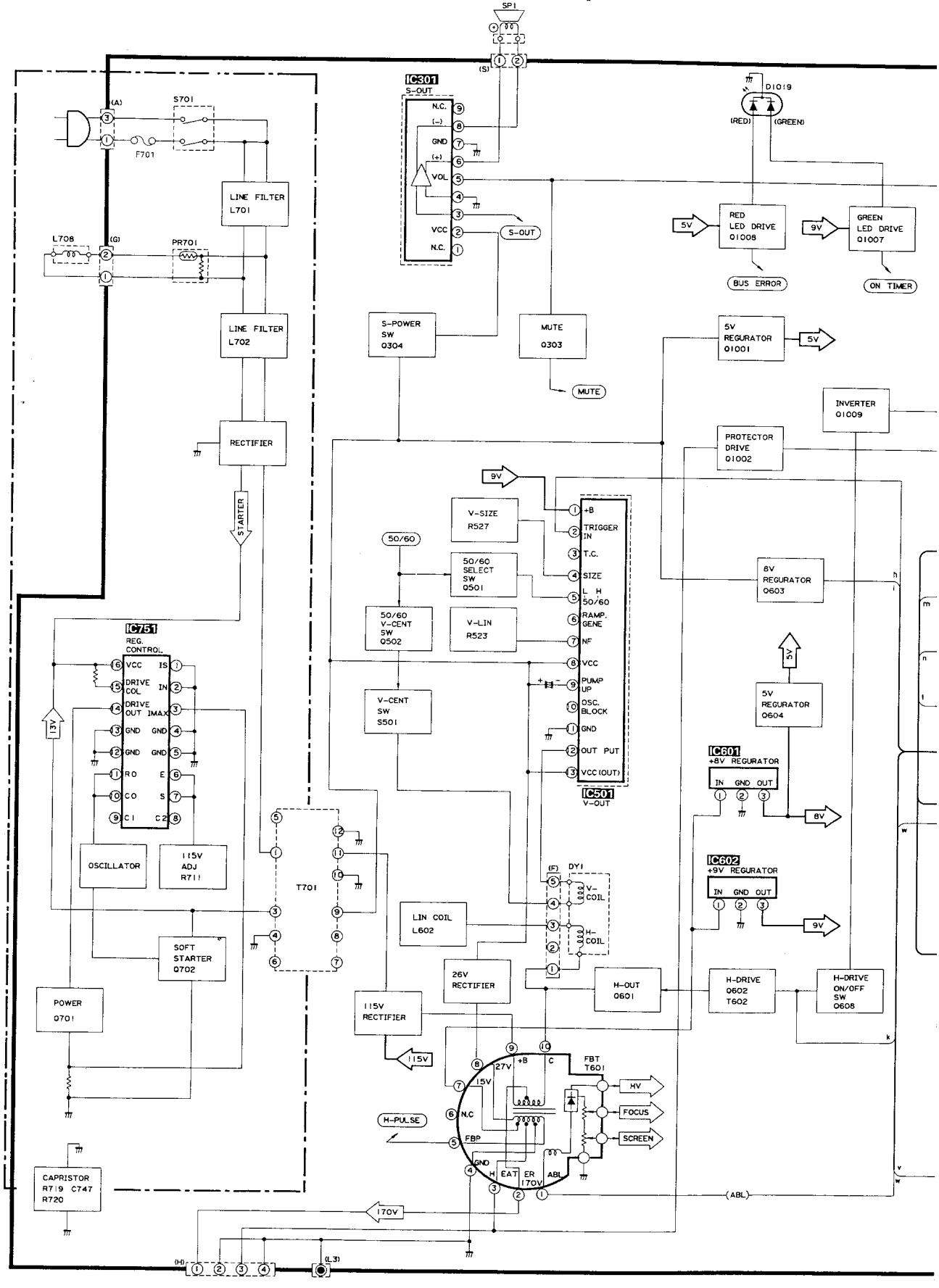
☐ Mother Unit / Hauptplatine (20B-SCⒶ)



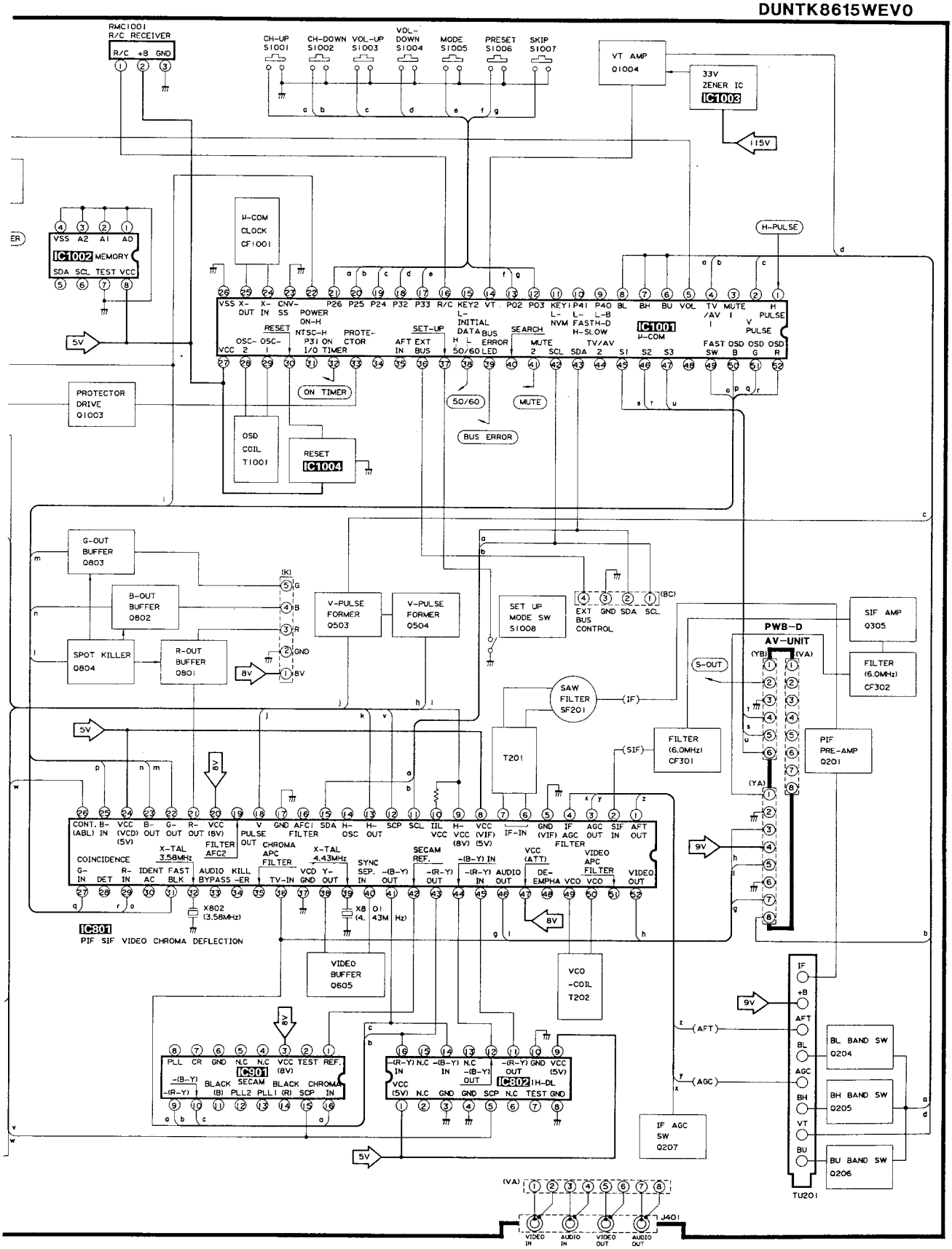

RMC1001
R/C RECEIVER
CH-UP S1001
CH-DOWN S1002
VOL-UP S1003
VOL-DOWN S1004
MODE S1005
PRESET S1006
SKIP S1007
VT AMP Q1004
33V ZENER IC IC1003
11.5V
IC1002 MEMORY
μ-COM CLOCK CF1001
H-PULSE
IC1001 μ-COM
5V
PROTECTOR DRIVE Q1003
ON TIMER
50/60
MUTE
BUS ERROR
OSD COIL T1001
RESET IC1004
G-OUT BUFFER Q803
B-OUT BUFFER Q802
R-OUT BUFFER Q801
SPOT KILLER Q804
8V
V-PULSE FORMER 0503
V-PULSE FORMER 0504
SET UP MODE SW S1008
EXT BUS CONTROL
SIF AMP Q305
PWB-D
AV-UNIT
FILTER (6.0MHz) CF302
S-OUT
SAW FILTER SF201
T201
FILTER (6.0MHz) CF301
PIF PRE-AMP Q201
9V
X802 (3.58MHz)
X801 (4.43MHz)
IC801
PIF SIF VIDEO CHROMA DEFLECTION
VIDEO BUFFER 0605
VCO COIL T202
IC301
IC802
IF AGC SW Q207
BL BAND SW Q204
BH BAND SW Q205
BU BAND SW Q206
TU201
14D-SCⒶ
14B-SCⒶ
J401

BLOCK DIAGRAM / BLOCKSCHALTPLAN

☐ Mother Unit / Hauptplatine (14D-SCⒶ, 14B-SCⒶ)



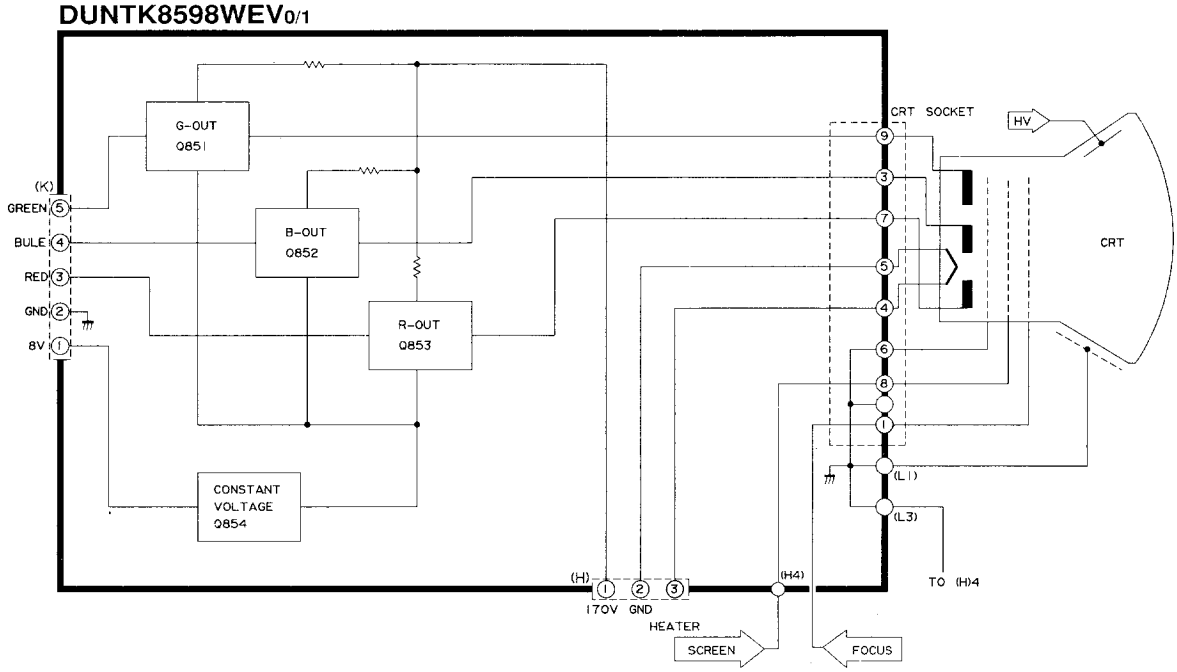
PWB–A
DUNTK8615WEV0



BLOCK DIAGRAM / BLOCKSCHALTPLAN

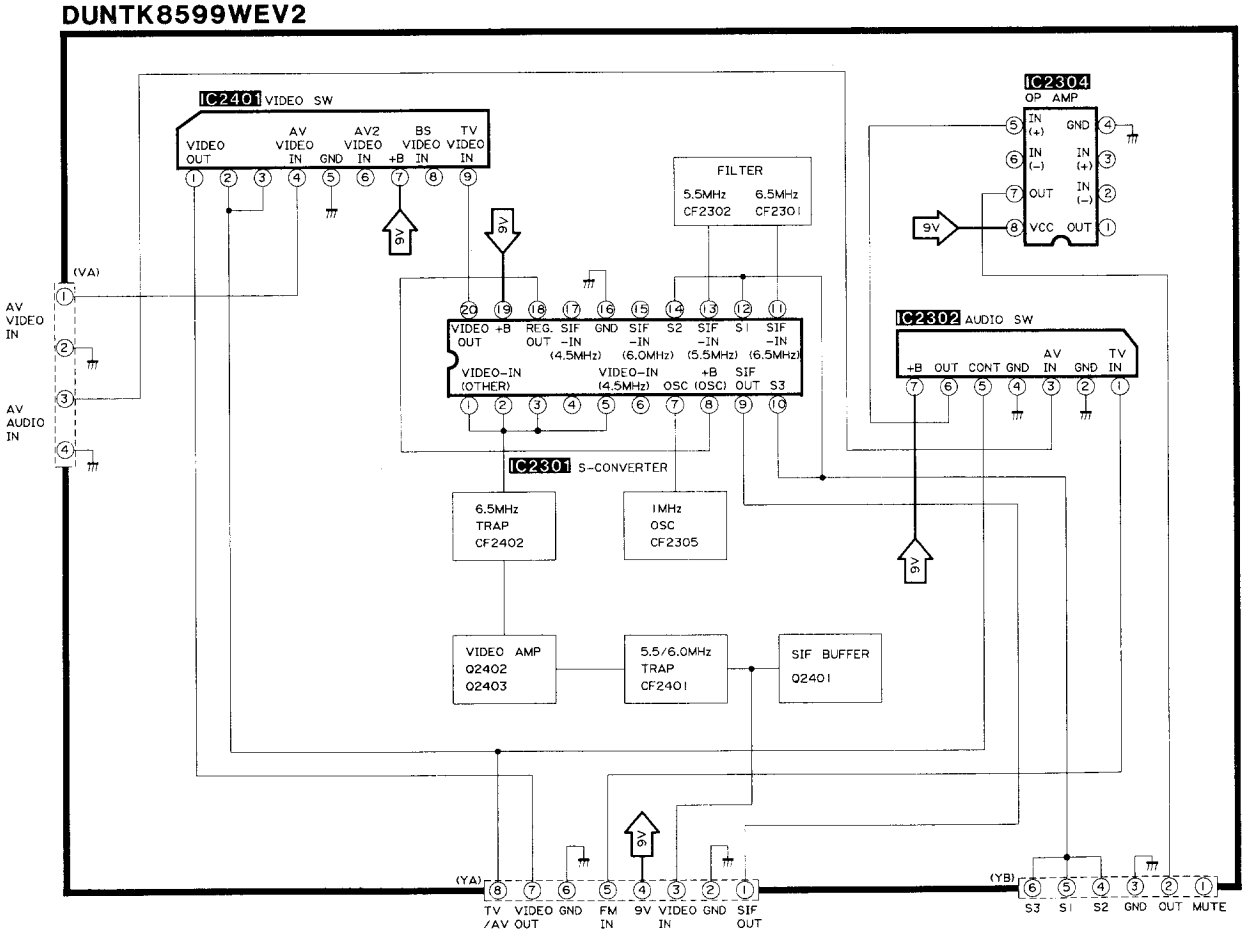
☐ CRT Socket Unit / Bildröhrenplatine (14D-SCⒶ, 14B-SCⒶ)

PWB–C
DUNTK8598WEV0/1



☐ AV Unit / AV-einheit (14D-SCⒶ)

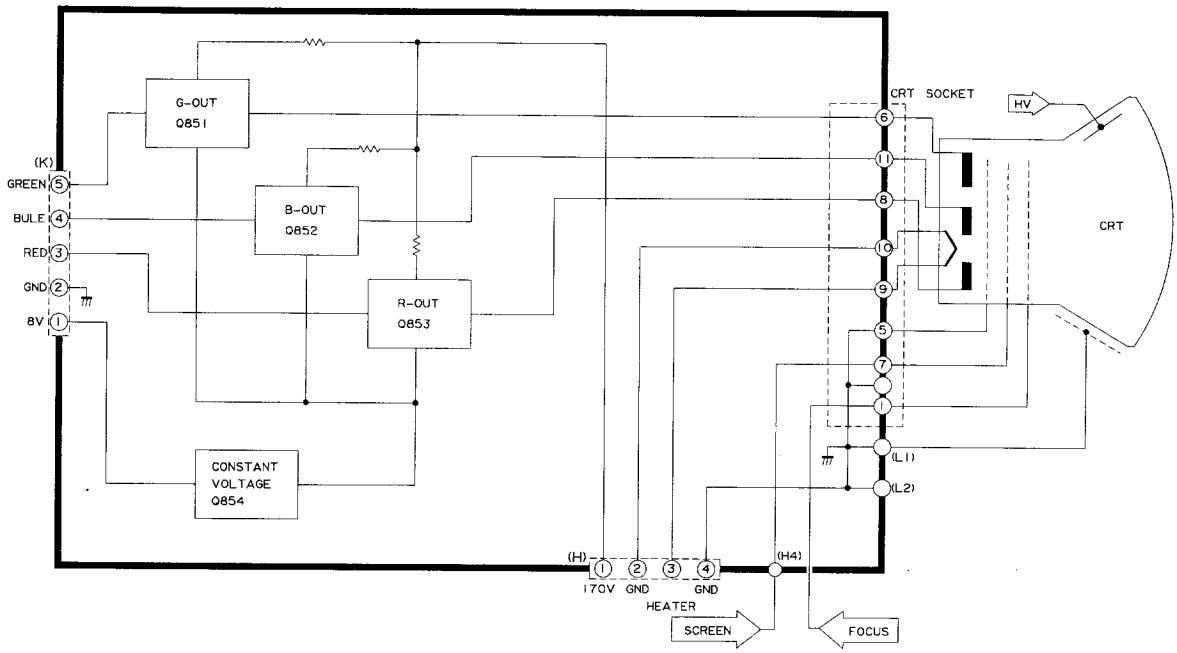
PWB–D (AV UNIT)
DUNTK8599WEV2



BLOCK DIAGRAM / BLOCKSCHALTPLAN

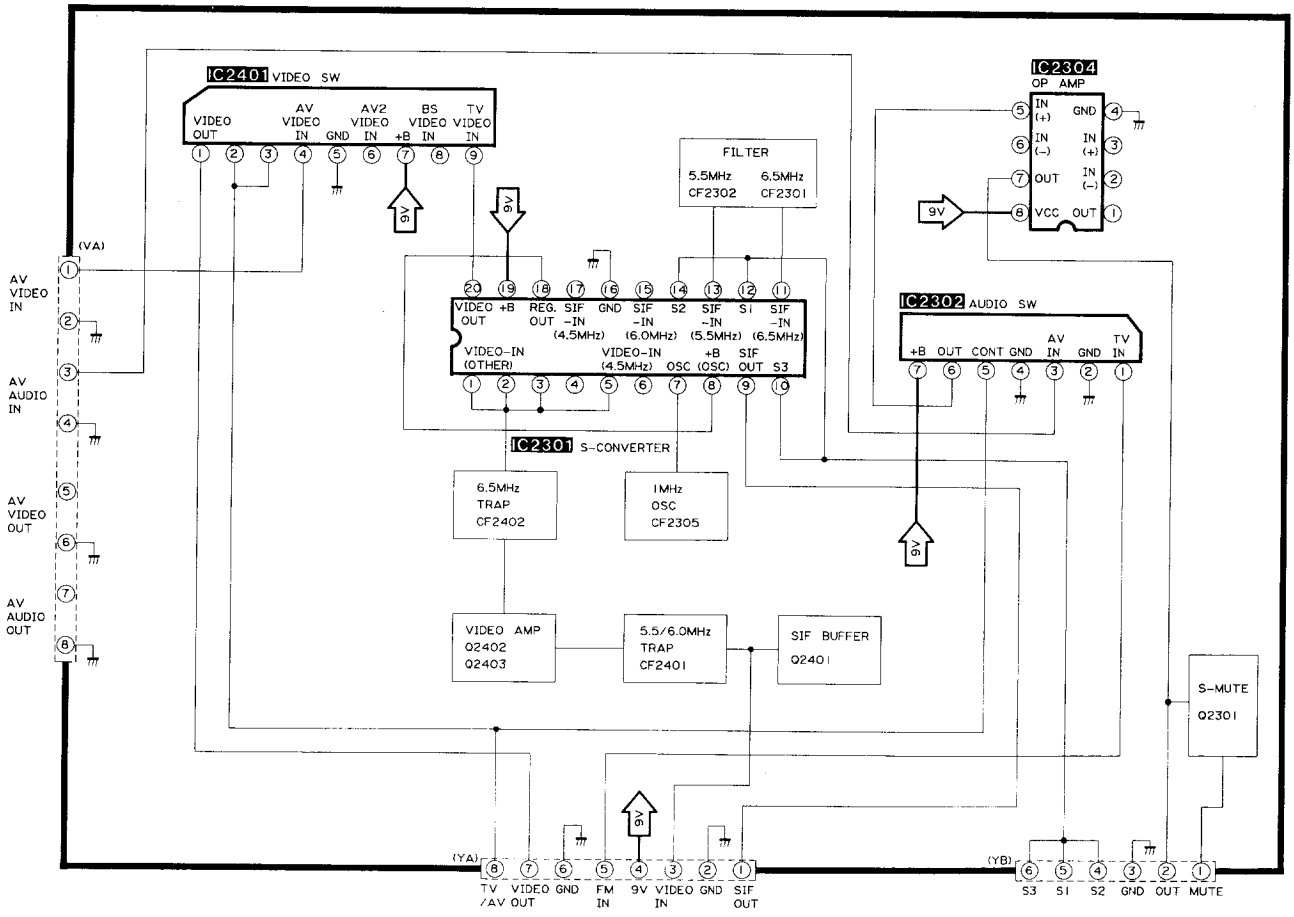
☐ CRT Socket Unit / Bildröhrenplatine (20B-SCⒶ)

PWB−C
DUNTK8446WEV2



☐ AV Unit / AV-einheit (14B-SCⒶ, 20B-SCⒶ)

PWB−D (AV UNIT)
DUNTK8599WEV1



PARTS LIST

PARTS REPLACEMENT

Replacement parts which have these special safety characteristics identified in this manual: electrical components having such features are identified by "⚠" in the Replacement Parts Lists.
The use of a substitute replacement part which does not have the same safety characteristics as the factory recommended replacement parts shown in this service manual may create shock, fire or other hazards.

"HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following informations.

1. MODEL NUMBER
2. REF. NO.
3. PART NO.
4. DESCRIPTION
5. CODE
6. QUANTITY

MARK ★: SPARE PARTS-DELIVERY SECTION.

ERSATZTEILLISTE

AUSTAUSCH VON TEILEN

Ersatzteile, die besondere Sicherheitseigenschften haben, sind in dieser Anleitung markiert. Elektrische Komponenten mit solchen Eigenshaften sind in den Ersatzteil durch "⚠" gekenn-zeichnet. Der Gebrauch von Ersatzteilen, die nicht deselben Sicherheits-eigenschaften haben wie die vom Hersteller empfohlenen ud in der Bedienungsanleitung angegebenen, können zur Ursache von Blitzeinschlägen, Bränden und anderen Gefahren werden.

"WIE MAN ERSATSTEILE BESTELLT"

Damit Ihre Bestellung promt und korrekt ausgeführt wird, geben Sie bitte folgende Informationen.

1. MODELL NR.
2. REF. NR.
3. ERSATZTEIL NR.
4. BESCHREIBUNG
5. KODE
6. QUANTITÄT

MARKIERUNG ★: ERSATZTEILE-LIEFERUNG

Ref. No.	Part No.	★	Description	Code

PICTURE TUBE

14D-SC Ⓐ

⚠ V1	VB370BVBK1U-S	R	CRT, 37cm (14")	BX
⚠ DY1	RCiLH0057PEZZ	R	Deflection Yoke	BB
⚠ L708	RCiLG0023PEZZ	R	Degaussing Coil	AN
	PMAGF3006CEZZ	J	Purity Magnet	AK
	PSPAG0004PEZZ	R	Wedge, (3 pcs used)	AB
	MSPRT0001PEFJ	R	Spring, CRT	AC

14B-SC Ⓐ

⚠ V1	VB34JLN61X/*S	R	CRT, 34cm (14")	BZ
⚠ DY1	RCiLH0037PEZZ	R	Deflection Yoke	BC
⚠ L708	RCiLG0023PEZZ	R	Degaussing Coil	AN
	PMAGF3006CEZZ	J	Purity Magnet	AK
	PSPAG0004PEZZ	R	Wedge, (3 pcs used)	AB
	MSPRT0001PEFJ	R	Spring, CRT	AC

20B-SC Ⓐ

⚠ V1	VB48JSK61X/2E	R	CRT, 48cm (20")	CE
⚠ DY1	RCiLH0022PEZZ	R	Deflection Yoke	BH
⚠ L708	RCiLG0024PEZZ	R	Degaussing Coil	AW
	PMAGF3003CEZZ	J	Purity Magnet	AK
	PSPAG0003PEZZ	R	Wedge, (3 pcs used)	AD
	MSPRT0001PEFJ	R	Spring, CRT	AC

—— End of PICTURE TUBE ——

Ref. No.	Part No.	★	Description	Code

PRINTED WIRING BOARD ASSEMBLIES
(*NOT REPLACEMENT ITEM*)

14D-SC Ⓐ

PWB-A	DUNTK8600WEV2	–	Mother Unit	—
PWB-C	DUNTK8598WEV0	–	CRT Socket Unit	—
PWB-D	DUNTK8599WEV2	–	AV Unit	—

14B-SC Ⓐ

PWB-A	DUNTK8615WEV1	–	Mother Unit	—
PWB-C	DUNTK8598WEV1	–	CRT Socket Unit	—
PWB-D	DUNTK8599WEV1	–	AV Unit	—

20B-SC Ⓐ

PWB-A	DUNTK8615WEV0	–	Mother Unit	—
PWB-C	DUNTK8446WEV2	–	CRT Socket Unit	—
PWB-D	DUNTK8599WEV1	–	AV Unit	—

—— End of P.W.B. ASSEMBLIES ——

PWB-A DUNTK8600WEV2
DUNTK8615WEV1/V0
MOTHER UNIT

TUNER

NOTE: THE PARTS HERE SHOWN ARE SUPPLIED AS AN ASSEMBLY BUT NOT INDEPENDENTLY.

Ref. No.	Part No.	★	Description	Code
⚠ TU201	VTUVTSH6HD02/	J	Tuner, VHF/UHF (14D-SCⒶ)	BF
⚠ TU201	VTUVTSS6O2///	J	Tuner, VHF/UHF (14B-SCⒶ, 20B-SCⒶ)	BL

INTEGRATED CIRCUITS

Ref. No.	Part No.	★	Description	Code
IC301	VHiTDA7056A-1	J	Audio Output	AP
IC501	VHiLA7837//-1	J	Vertical Output	AH
IC601	VHiTA7808S/-1	J	+8V Regulator	AD
IC602	VHiTA7809S/-1	J	+9V Regulator	AE
⚠ IC751	RH-iX1779CEZZ	J	Power Regulator	AR
IC801	VHiM52343SP-1	J	Video/Chroma	BD
IC802	VHiTDA4661/-1	J	1H-DL	AS
IC901	VHiM52325P/-1	J	SECAM	AV
IC1001	RH-iX2551CEN2	J	Microprocessor	AY
IC1002	RH-iX2448CEN1	J	Memory	AN
IC1003	RH-iX0037CEZZ	J	Zener IC	AF
IC1004	VHiPST529C2-1	J	Reset Switch	AD

TRANSISTORS

Ref. No.	Part No.	★	Description	Code
Q201	VS2SC1906//1E	J	2SC1906	AC
Q204	VS2SA1015Y/1E	J	2SA1015(Y)	AC
Q205	VS2SA1015Y/1E	J	2SA1015(Y)	AC
Q206	VS2SA1015Y/1E	J	2SA1015(Y)	AC
Q207	VS2SC945AP/-1	J	2SC945A(P)	AB
Q303	VS2SC945AP/-1	J	2SC945A(P)	AB
Q304	VS2SC2236Y/-1	J	2SC2236(Y)	AD
Q305	VS2SC945AP/-1	J	2SC945A(P)	AB
Q501	VS2SC945AP/-1	J	2SC945A(P)	AB
Q502	VS2SC1815GW-1	J	2SC1815(GW)	AB
Q503	VS2SA1015Y/1E	J	2SA1015(Y)	AC
Q504	VS2SA1015Y/1E	J	2SA1015(Y)	AC
⚠ Q601	VS2SD1877//1E	J	2SD1877 (14D-SCⒶ, 14B-SCⒶ)	AL
⚠ Q601	VS2SD1554//1E	J	2SD1554 (20B-SCⒶ)	AL
Q602	VS2SC2271E/-1	J	2SC2271	AD
Q603	VS2SD880-G/-1	J	2SD880	AF
Q604	VS2SD880-G/-1	J	2SD880	AF
Q605	VS2SA1015Y/1E	J	2SA1015(Y)	AC
Q608	VS2SC945AP/-1	J	2SC945A(P)	AB
⚠ Q701	VS2SD1883//-1	J	2SD1883	AL
⚠ Q702	VS2SC945AP/-1	J	2SC945A(P)	AB
Q801	VS2SA1015Y/1E	J	2SA1015(Y)	AC
Q802	VS2SA1015Y/1E	J	2SA1015(Y)	AC
Q803	VS2SA1015Y/1E	J	2SA1015(Y)	AC
Q804	VS2SC945AP/-1	J	2SC945A(P)	AB

TRANSISTORS (Continued)

Ref. No.	Part No.	★	Description	Code
Q1001	VS2SC1815GW-1	J	2SC1815(GW)	AB
Q1002	VS2SC945AP/-1	J	2SC945A(P)	AB
Q1003	VS2SA1015Y/1E	J	2SA1015(Y)	AC
Q1004	VS2SC383-WT-1	J	2SC383(WT)	AE
Q1007	VS2SC945AP/-1	J	2SC945A(P)	AB
Q1008	VS2SC945AP/-1	J	2SC945A(P)	AB
Q1009	VS2SC3399//-1	J	2SC3399	AB

DIODES

Ref. No.	Part No.	★	Description	Code
D302	RH-DX0224CEZZ	J		AB
D303	VHD1SS119//1E	J	1SS119	AA
D501	RH-DX0127CEZZ	J	1S5295G	AC
D502	RH-DX0279CEZZ	J	1N4005	AB
D503	VHD1SS119//1E	J	1SS119	AA
D602	RH-EX0310CEZZ	J	Zener Diode, 8.2V	AA
D603	VHD1SS119//1E	J	1SS119	AA
D604	VHD1SS119//1E	J	1SS119	AA
D605	VHD1SS119//1E	J	1SS119	AA
D606	VHD1SS119//1E	J	1SS119 (20B-SCⒶ)	AA
D607	VHD1SS119//1E	J	1SS119	AA
D608	VHD1SS119//1E	J	1SS119	AA
D609	RH-EX0293CEZZ	J	Zener Diode	AA
D610	RH-EX0295CEZZ	J	Zener Diode	AA
D611	RH-EX0281CEZZ	J	Zener Diode	AA
D612	VHD1SS119//1E	J	1SS119	AA
D613	VHD1SS119//1E	J	1SS119	AA
D614	RH-DX0073CEZZ	J	RH1Z	AD
D615	VHD1SS119//1E	J	1SS119	AA
D616	RH-DX0302CEZZ	J		AC
D617	RH-DX0279CEZZ	J	1N4005	AB
D618	VHD1SS119//1E	J	1SS119	AA
D624	VHD1SS119//1E	J	1SS119	AA
D626	VHD1SS119//1E	J	1SS119	AA
D627	VHD1SS119//1E	J	1SS119	AA
D628	VHD1SS119//1E	J	1SS119	AA
⚠ D701	RH-DX0279CEZZ	J	Rectifier	AB
⚠ D702	RH-DX0279CEZZ	J	Rectifier	AB
⚠ D703	RH-DX0279CEZZ	J	Rectifier	AB
⚠ D704	RH-DX0279CEZZ	J	Rectifier	AB
⚠ D705	RH-DX0130CEZZ	J	EU-1Z	AE
⚠ D706	RH-DX0130CEZZ	J	EU-1Z	AE
⚠ D707	RH-DX0164CEZZ	J		AC
⚠ D708	RH-EX0092CEZZ	J	Zener Diode, 3.9V	AB
⚠ D709	RH-DX0302CEZZ	J		AC
D732	RH-DX0226CEZZ	J		AC
D801	VHD1SS119//1E	J	1SS119	AA
D802	VHD1SS119//1E	J	1SS119	AA
D803	VHD1SS119//1E	J	1SS119	AA
D804	VHD1SS119//1E	J	1SS119	AA
D805	VHD1SS119//1E	J	1SS119	AA
D1001	RH-EX0294CEZZ	J	Zener Diode	AA
D1002	VHD1SS119//1E	J	1SS119	AA
D1003	RH-EX0322CEZZ	J	Zener Diode	AA

PWB-A DUNTK8600WEV2 DUNTK8615WEV1/V0 MOTHER UNIT (Continued)

Ref. No.	Part No.	★	Description	Code
DIODES (Continued)				
D1004	VHD1SS119//1E	J	1SS119	AA
D1005	RH-EX0301CEZZ	J	Zener Diode	AA
D1006	RH-EX0301CEZZ	J	Zener Diode	AA
D1007	RH-EX0325CEZZ	J	Zener Diode	AA
D1008	RH-EX0325CEZZ	J	Zener Diode	AA
D1009	RH-EX0325CEZZ	J	Zener Diode	AA
D1010	RH-EX0325CEZZ	J	Zener Diode	AA
D1011	RH-EX0325CEZZ	J	Zener Diode	AA
D1012	RH-EX0301CEZZ	J	Zener Diode	AA
D1013	RH-EX0325CEZZ	J	Zener Diode	AA
D1014	RH-EX0325CEZZ	J	Zener Diode	AA
D1015	VHD1SS119//1E	J	1SS119	AA
D1016	RH-EX0325CEZZ	J	Zener Diode	AA
D1017	RH-EX0325CEZZ	J	Zener Diode	AA
D1018	RH-EX0325CEZZ	J	Zener Diode	AA
D1019	RH-PX0290CEZZ	J	LED, Red/Green	AC
D1024	RH-EX0295CEZZ	J	Zener Diode	AA
D1025	VHD1SS119//1E	J	1SS119	AA
D1045	RH-EX0325CEZZ	J	Zener Diode	AA
D1047	VHD1SS119//1E	J	1SS119	AA
D1048	RH-EX0325CEZZ	J	Zener Diode	AA
D1049	RH-EX0325CEZZ	J	Zener Diode	AA
⚠ VA702	RH-VX0033CEZZ	J	Varistor (14D-SCⒶ)	AD
PACKAGED CIRCUITS				
⚠ PR701	RMPTP0028CEZZ	J	Positive Coefficient Thermistor (14D-SCⒶ, 14B-SCⒶ)	AG
⚠ PR701	RMPTP0061CEZZ	J	Positive Coefficient Thermistor (20B-SCⒶ)	AV
X801	RCRSB0008PEZZ	R	Crystal, 4.43 MHz	AH
X802	RCRSB0009PEZZ	R	Crystal, 3.58 MHz	AL
COIL AND TRANSFORMERS				
CF301	RFiLC0084CEZZ	J	Ceramic Filter, 6.0 MHz	AF
CF302	RFiLC0268CEZZ	J	Ceramic Filter, 6.0 MHz	AD
CF601	RFiLA0078CEZZ	J	Ceramic Filter, 500 kHz	AF
CF1001	RFiLC0091GEZZ	J	Ceramic Filter, 4 MHz Osc.	AD
L201	VP-XF1R8K0000	J	Coil, 1.8μH	AB
L204	VP-DF120K0000	J	Coil, 12μH	AB
L205	VP-XF2R2K0000	J	Coil, 2.2μH	AB
L206	VP-XF1R2K0000	J	Coil, 1.2μH	AB
L209	VP-CF680K0000	J	Coil, 68μH	AB
L301	VP-DF101K0000	J	Coil, 100μH	AB
L303	VP-CF3R3K0000	J	Coil, 3.3μH (14B-SCⒶ)	AB
L303	RCiLP0093CEZZ	J	Peaking Coil (20B-SCⒶ)	AE
L304	VP-CF3R3K0000	J	Coil, 3.3μH	AB
L305	VP-CF3R3K0000	J	Coil, 3.3μH (20B-SCⒶ)	AB

Ref. No.	Part No.	★	Description	Code
COIL AND TRANSFORMERS (Continued)				
L306	VP-DF150K0000	J	Coil, 15μH	AB
L601	VP-CF1R5M0000	J	Coil, 1.5μH (14D-SCⒶ)	AB
L601	VP-CF1R5K0000	J	Coil, 1.5μH (14B-SCⒶ)	AB
L601	VP-CF1R0M0000	J	Coil, 1μH (20B-SCⒶ)	AB
L602	RCiLZ0004PEZZ	R	Linearity Coil (14D-SCⒶ, 14B-SCⒶ)	AN
L602	RCiLZ0499CEZZ	J	Linearity Coil (20B-SCⒶ)	AF
L603	RCiLP0088CEZZ	J	3.3mH	AG
L604	VP-CF3R3K0000	J	Coil, 3.3μH	AB
L605	VP-CF100K0000	J	Coil, 10μH	AB
L632	RCiLP0050CEZZ	J	Peaking Coil	AE
⚠ L701	RCiLF0076CEZZ	J	Line Filter (14D-SCⒶ, 14B-SCⒶ)	AK
⚠ L702	RCiLF0105CEZZ	J	Line Filter	AP
⚠ L703	RCiLP0093CEZZ	J	Peaking Coil (14B-SCⒶ, 20B-SCⒶ)	AE
⚠ L704	RCiLP0093CEZZ	J	Peaking Coil (14B-SCⒶ, 20B-SCⒶ)	AE
⚠ L705	VP-CF3R3K0000	J	Coil, 3.3μH	AB
⚠ L711	RCiLP0093CEZZ	J	Peaking Coil (14B-SCⒶ)	AE
⚠ L712	VP-CF330K0000	J	Coil, 33μH	AB
L731	VP-CF3R3K0000	J	Coil, 3.3μH (14B-SCⒶ, 20B-SCⒶ)	AB
L733	RCiLP0093CEZZ	J	Peaking Coil (14B-SCⒶ, 20B-SCⒶ)	AE
L801	VP-DF470K0000	J	Coil, 47μH (14D-SCⒶ, 14B-SCⒶ)	AB
L801	VP-DF101K0000	J	Coil, 100μH (20B-SCⒶ)	AB
L802	VP-DF470K0000	J	Coil, 47μH (14D-SCⒶ, 14B-SCⒶ)	AB
L802	VP-DF101K0000	J	Coil, 100μH (20B-SCⒶ)	AB
L901	VP-XF8R2K0000	J	Coil, 8.2μH	AB
L1001	VP-XF120K0000	J	Coil, 12μH	AB
L1002	VP-XF120K0000	J	Coil, 12μH	AB
L1004	VP-DF120K0000	J	Coil, 12μH	AB
SF201	RFiLC0308CEZZ	J	Surface Acoustic Wave Filter (14D-SCⒶ)	AM
SF201	RFiLC0325CEZZ	J	Surface Acoustic Wave Filter (14B-SCⒶ, 20B-SCⒶ)	AL
T201	RCiLi0550CEZZ	J	IF Coil	AD
T202	RCiLD0229CEZZ	J	PIF Detector	AE
⚠ T601	RTRNF0063PEZZ	R	F.B.T. (Flyback Trans.) (14D-SCⒶ, 14B-SCⒶ)	BE
⚠ T601	RTRNF0067PEZZ	R	F.B.T. (Flyback Trans.) (20B-SCⒶ)	BH
⚠ T602	RTRNZ0179CEZZ	R	Horizontal Drive Trans. (14D-SCⒶ, 14B-SCⒶ)	AE
⚠ T602	RTRNZ0026PEZZ	R	Horizontal Drive Trans. (20B-SCⒶ)	AH

PWB-A DUNTK8600WEV2 DUNTK8615WEV1/V0 MOTHER UNIT (Continued)

COILS AND TRANSFORMERS (Continued)

Ref. No.	Part No.	★	Description	Code
⚠T701	RTRNZ0050PEZZ	R	Power Regulator Trans. (14D-SC Ⓐ)	AU
⚠T701	RTRNZ0034PEZZ	R	Power Regulator Trans. (14B-SC Ⓐ)	AU
⚠T701	RTRNZ0035PEZZ	R	Power Regulator Trans. (20B-SC Ⓐ)	AW
T1001	RCiLB0008PEZZ	R	On Screen Display	AG

CONTROLS

Ref. No.	Part No.	★	Description	Code
R523	RVR-M4622GEZZ	J	2.2k(B) Vert. Linearity	AB
R527	RVR-M4631GEZZ	J	68k(B) Vert. Size	AB
⚠R711	RVR-M4324CEZZ	J	220(B) 115V Adj. (14D-SC Ⓐ)	AC
⚠R711	RVR-M4356GEZZ	J	220(B) 115V Adj. (14B-SC Ⓐ, 20B-SC Ⓐ)	AB

CAPACITORS

Ref. No.	Part No.	★	Description	Code
C201	VCEAGA1CW477M	J	470 16V Electrolytic	AC
C202	VCEAGA1HW105M	J	1 50V Electrolytic	AC
C203	VCQYTA1HM104K	J	0.1 50V Mylar (14D-SC Ⓐ)	AC
C203	VCQYTA1HM104J	J	0.1 50V Mylar (14B-SC Ⓐ, 20B-SC Ⓐ)	AA
C204	VCEAGA1HW105M	J	1 50V Electrolytic	AC
C205	VCEAGA1HW225M	J	2.2 50V Electrolytic	AB
C206	VCEAGA1HW105M	J	1 50V Electrolytic	AC
C207	VCFYFA1HA104J	J	0.1 50V M. Polyester	AA
C208	VCEAGA1CW107M	J	100 16V Electrolytic	AB
C209	VCKYMN1CY103N	J	0.01 16V Ceramic	AA
C210	VCKYMN1CY103N	J	0.01 16V Ceramic	AA
C211	VCKYMN1CY103N	J	0.01 16V Ceramic	AA
C212	VCKYMN1CY103N	J	0.01 16V Ceramic	AA
C213	VCKYMN1CY103N	J	0.01 16V Ceramic	AA
C216	VCEAGA0JW108M	J	1000 6.3V Electrolytic	AC
C217	VCKYMN1CY103N	J	0.01 16V Ceramic	AA
C218	VCEAGA1HW224M	J	0.22 50V Electrolytic	AA
C219	VCEAGA1HW474M	J	0.47 50V Electrolytic	AA
C220	VCKYMN1CY103N	J	0.01 16V Ceramic	AA
C222	VCFYFA1HA104J	J	0.1 50V M. Polyester	AA
C225	VCCCPA1HH1R0C	J	1p 50V Ceramic	AA
C301	VCQYTU1HM223J	J	0.022 50V Mylar	AC
C302	VCQYTA1HM103K	J	0.01 50V Mylar (14D-SC Ⓐ)	AB
C302	VCQYTA1HM103J	J	0.01 50V Mylar (14B-SC Ⓐ, 20B-SC Ⓐ)	AA
C304	VCKYMN1CY103N	J	0.01 16V Ceramic	AA
C305	VCEAGA1HW104M	J	0.1 50V Electrolytic	AA
C306	VCEAGA1CW106M	J	10 16V Electrolytic	AA

CAPACITORS

Ref. No.	Part No.	★	Description	Code
C307	VCKYMN1CY103N	J	0.01 16V Ceramic	AA
C308	VCEAGA1CW337M	J	330 16V Electrolytic	AC
C309	VCFYHA1HA474J	J	0.47 50V M. Polyester	AC
C311	VCKYPA2HB102K	J	1000p 500V Ceramic	AA
C312	VCEAGA1EW477M	J	470 25V Electrolytic (14D-SC Ⓐ, 20B-SC Ⓐ)	AD
C312	VCEAGA1CW337M	J	330 16V Electrolytic (14B-SC Ⓐ)	AC
C313	VCEAGA1CW106M	J	10 16V Electrolytic	AA
C319	VCKYD41HB102K	J	1000p 50V Ceramic (14D-SC Ⓐ)	AA
C319	VCKYD41CY103N	J	0.01 16V Ceramic (14B-SC Ⓐ, 20B-SC Ⓐ)	AA
C322	VCKYMN1CY103N	J	0.01 16V Ceramic	AA
C327	VCQYTA1HM103K	J	0.01 50V Mylar (14D-SC Ⓐ)	AB
C327	VCQYTA1HM103J	J	0.01 50V Mylar (14B-SC Ⓐ, 20B-SC Ⓐ)	AA
C328	VCEAGA1EW477M	J	470 25V Electrolytic	AD
C329	VCKYMN1CY103N	J	0.01 16V Ceramic	AA
C330	VCKYMN1CY103N	J	0.01 16V Ceramic	AA
C331	VCCCPA1HH470J	J	47p 50V Ceramic	AA
C333	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C334	VCKYMN1CY103N	J	0.01 16V Ceramic	AA
C401	VCFYFA1HA224J	J	0.22 50V M. Polyester	AB
C402	VCEAGA1HW225M	J	2.2 50V Electrolytic	AB
C501	VCEAGA1VW477M	J	470 35V Electrolytic	AD
C502	VCKYPA2HB102K	J	1000p 500V Ceramic	AA
C503	VCEAGA1VW107M	J	100 35V Electrolytic	AC
C504	VCKYMN1CY103N	J	0.01 16V Ceramic	AA
C505	VCEAGA1EW108M	J	1000 25V Electrolytic	AD
C506	VCEACA1HC225M	J	2.2 50V Electrolytic	AC
C507	VCQYTA1HM104K	J	0.1 50V Mylar (14D-SC Ⓐ)	AC
C507	VCQYTA1HM104J	J	0.1 50V Mylar (14B-SC Ⓐ, 20B-SC Ⓐ)	AA
C508	VCQYTA1HM104K	J	0.1 50V Mylar (14D-SC Ⓐ)	AC
C508	VCQYTA1HM104J	J	0.1 50V Mylar (14B-SC Ⓐ, 20B-SC Ⓐ)	AA
C509	VCCSPA1HL100J	J	10p 50V Ceramic	AA
C510	VCEAGA1HW107M	J	100 50V Electrolytic	AC
C511	VCEACA1HC105M	J	1 50V Electrolytic	AC
C512	VCQYTA1HM103K	J	0.01 50V Mylar (14D-SC Ⓐ)	AB
C512	VCQYTA1HM103J	J	0.01 50V Mylar (14B-SC Ⓐ, 20B-SC Ⓐ)	AA
C513	VCEAGA1CW477M	J	470 16V Electrolytic	AC
C514	VCKYMN1CY103N	J	0.01 16V Ceramic	AA
C515	VCEAGA1CW106M	J	10 16V Electrolytic	AA
C516	VCKYPA2HB561K	J	560p 500V Ceramic	AA
C601	VCEAGA1CW227M	J	220 16V Electrolytic	AC
C602	VCKYMN1CY103N	J	0.01 16V Ceramic	AA
C603	VCEAGA1CW106M	J	10 16V Electrolytic	AA
C604	VCE9GA1HW105M	J	1 50V Elect. (N.P)	AB

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CAPACITORS (Continued)

Ref. No.	Part No.	★	Description	Code
C605	VCQYTA1HM103K	J	0.01 50V Mylar (14D-SC Ⓐ)	AB
C605	VCQYTA1HM103J	J	0.01 50V Mylar (14B-SC Ⓐ, 20B-SC Ⓐ)	AA
C606	VCQYTA1HM223K	J	0.022 50V Mylar (14D-SC Ⓐ)	AB
C606	VCQYTA1HM223K	J	0.022 50V Mylar (14B-SC Ⓐ, 20B-SC Ⓐ)	AB
C607	VCQYTA1HM683K	J	0.068 50V Mylar	AB
C608	VCKYPA1HB182K	J	1800p 50V Ceramic	AA
C609	VCKYPA2HB102K	J	1000p 500V Ceramic	AA
C610	VCFYSB2EB823J	J	0.082 250V M. Polyester	AD
⚠ C611	VCFPPD3CA682H	J	6800p 1.6kV Polypro Film (14D-SC Ⓐ, 14B-SC Ⓐ)	AE
⚠ C611	VCFPPD3CA103J	J	0.01 1.6kV Polypro Film (20B-SC Ⓐ)	AF
C612	RC-KZ0038CEZZ	J	470p 2kV Ceramic (14D-SC Ⓐ, 14B-SC Ⓐ)	AB
C613	VCQPSD2DA224J	J	0.22 200V Mylar (14D-SC Ⓐ, 14B-SC Ⓐ)	AD
C613	VCFPPD2DB474J	J	0.47 200V Polypro Film (20B-SC Ⓐ)	AE
C614	VCKYPA2HB221K	J	220p 500V Ceramic	AA
C615	VCFPPD2DB434J	J	0.43 200V Polypro Film (14D-SC Ⓐ, 14B-SC Ⓐ)	AE
C615	VCFPPD2DB474J	J	0.47 200V Polypro Film (20B-SC Ⓐ)	AE
C616	VCQPSC2DA104J	J	0.1 200V Mylar (20B-SC Ⓐ)	AC
C617	VCEAGA2AW106M	J	10 100V Electrolytic	AC
C618	VCQYTA1HM104K	J	0.1 50V Mylar (14D-SC Ⓐ)	AC
C618	VCQYTA1HM104J	J	0.1 50V Mylar (14B-SC Ⓐ, 20B-SC Ⓐ)	AA
C619	VCKYPA2HB102K	J	1000p 500V Ceramic	AA
C620	VCEAGA1EW477M	J	470 25V Electrolytic	AD
C621	VCEAGA1HW106M	J	10 50V Electrolytic	AC
C622	VCEAGA1CW227M	J	220 16V Electrolytic	AC
C623	VCEAGA1CW477M	J	470 16V Electrolytic	AC
C624	VCEAGA1CW227M	J	220 16V Electrolytic	AC
C625	VCEAGA1CW477M	J	470 16V Electrolytic	AC
C626	VCEAGA1CW107M	J	100 16V Electrolytic	AB
C627	VCEAGA1CW106M	J	10 16V Electrolytic	AA
C628	VCEAGA1AW477M	J	470 10V Electrolytic	AC
C629	VCCCPA1HH220J	J	22p 50V Ceramic	AA
C631	VCEAGA1CW106M	J	10 16V Electrolytic	AA
C634	VCFYFA1HA224J	J	0.22 50V M. Polyester	AB
C637	VCEAGA1CW476M	J	47 16V Electrolytic	AB
C638	VCFYFA1HA224J	J	0.22 50V M. Polyester	AB
C640	VCEAGA1EW227M	J	220 25V Electrolytic	AC
C641	VCEAGA1AW227M	J	220 10V Electrolytic	AB
⚠ C701	RC-FZ0091CEZZ	J	0.22 AC250V Special (14D-SC Ⓐ, 14B-SC Ⓐ)	AE
⚠ C701	RC-FZ0066CEZZ	J	0.1 AC250V Special (20B-SC Ⓐ)	AE
⚠ C703	RC-KZ0029CEZZ	J	0.01 AC250V Ceramic (14D-SC Ⓐ)	AC
⚠ C704	RC-KZ0029CEZZ	J	0.01 AC250V Ceramic	AC
⚠ C705	RC-KZ0029CEZZ	J	0.01 AC250V Ceramic	AC
⚠ C706	RC-KZ0029CEZZ	J	0.01 AC250V Ceramic	AC
⚠ C707	RC-EZ0055CEZZ	J	150 400V Electrolytic	AN
⚠ C708	RC-KZ0029CEZZ	J	0.01 AC250V Ceramic	AC
⚠ C709	VCEAGA1EW107M	J	100 25V Electrolytic (14D-SC Ⓐ)	AD
⚠ C709	VCEAGA1EW227M	J	220 25V Electrolytic (14B-SC Ⓐ, 20B-SC Ⓐ)	AC
⚠ C710	VCKYPA2HB102K	J	1000p 500V Ceramic	AA
⚠ C711	RC-QZA821TAYJ	J	820p Mylar (14D-SC Ⓐ, 14B-SC Ⓐ)	AB
⚠ C711	VCQYTA1HM152J	J	1500p 50V Mylar (20B-SC Ⓐ)	AA
⚠ C712	VCFYFA1HA474J	J	0.47 50V M. Polyester	AC
⚠ C713	VCKYPA2HB102K	J	1000p 500V Ceramic	AA
⚠ C714	VCQYTA1HM123K	J	0.012 50V Mylar (14D-SC Ⓐ)	AA
⚠ C714	VCQYTA1HM123J	J	0.012 50V Mylar (14B-SC Ⓐ, 20B-SC Ⓐ)	AA
⚠ C715	VCEAGA1HW105M	J	1 50V Electrolytic	AC
⚠ C716	VCEAGA1HW105M	J	1 50V Electrolytic (14D-SC Ⓐ, 14B-SC Ⓐ)	AC
⚠ C716	VCEAGA1HW225M	J	2.2 50V Electrolytic (20B-SC Ⓐ)	AB
⚠ C717	VCQPSC2JA333K	J	0.033 630V Mylar	AB
⚠ C718	VCKYPH3DB561K	J	560p 2kV Ceramic	AC
⚠ C719	VCQYTA1HM273K	J	0.027 50V Mylar (14D-SC Ⓐ)	AB
⚠ C719	VCQYTA1HM273J	J	0.027 50V Mylar (14B-SC Ⓐ, 20B-SC Ⓐ)	AB
⚠ C720	VCEAGA1JW476M	J	47 63V Electrolytic	AB
⚠ C721	RC-KZ0024CEZZ	J	1000p 2kV Ceramic	AC
⚠ C723	VCKYPA2HB102K	J	1000p 500V Ceramic	AA
⚠ C724	RC-KZ0029CEZZ	J	0.01 AC250V Ceramic	AC
⚠ C725	VCFYHA1HA474J	J	0.47 50V M. Polyester	AC
⚠ C726	VCKYPA1HB331K	J	330p 50V Ceramic	AA
⚠ C729	VCEAGA1CW227M	J	220 16V Electrolytic (14D-SC Ⓐ)	AC
⚠ C729	VCFYHA1HA474J	J	0.47 50V M. Polyester (14B-SC Ⓐ, 20B-SC Ⓐ)	AC
C731	VCEAGW2CW227M	J	220 160V Electrolytic (14D-SC Ⓐ)	AK
C731	VCEAAH2CW107M	J	100 160V Electrolytic (14B-SC Ⓐ, 20B-SC Ⓐ)	AE
C732	RC-KZ0024CEZZ	J	1000p 2kV Ceramic (14D-SC Ⓐ, 14B-SC Ⓐ)	AC
C732	RC-KZ0057CEZZ	J	1500p 2kV Ceramic (20B-SC Ⓐ)	AD

PWB-A DUNTK8600WEV2 DUNTK8615WEV1/V0 MOTHER UNIT (Continued)

CAPACITORS (Continued)

Ref. No.	Part No.	★	Description	Code
C734	VCFYFA1HA334J	J	0.33 50V M. Polyester (14B-SCⒶ)	AB
⚠ C736	RC-KZ0029CEZZ	J	0.01 AC250V Ceramic (14D-SCⒶ)	AC
C737	VCEAGH2CW107M	J	100 160V Electrolytic	AE
⚠ C741	VCKYPA2HB472K	J	4700p 500V Ceramic	AB
⚠ C742	VCFYFA1HA394J	J	0.39 50V M. Polyester (14D-SCⒶ)	AC
⚠ C742	VCFYFA1HA104J	J	0.1 50V M. Polyester (14B-SCⒶ, 20B-SCⒶ)	AA
⚠ C747	RC-KZ0265CEZZ	J	1500p 4kV Ceramic (14D-SCⒶ)	AE
⚠ C747	RC-KZ0156CEZZ	J	3300p 4kV Ceramic (14B-SCⒶ, 20B-SCⒶ)	AG
C801	VCQYTA1HM104K	J	0.1 50V Mylar (14D-SCⒶ)	AC
C801	VCQYTA1HM104J	J	0.1 50V Mylar (14B-SCⒶ, 20B-SCⒶ)	AA
C802	VCQYTA1HM104K	J	0.1 50V Mylar (14D-SCⒶ)	AC
C802	VCQYTA1HM104J	J	0.1 50V Mylar (14B-SCⒶ, 20B-SCⒶ)	AA
C803	VCEAGA1CW476M	J	47 16V Electrolytic	AB
C804	VCKYPA1HB102K	J	1000p 50V Ceramic	AA
C805	VCKYPA1HB102K	J	1000p 50V Ceramic	AA
C806	VCKYMN1CY103N	J	0.01 16V Ceramic	AA
C807	VCCCPA1HH8R0D	J	8p 50V Ceramic	AA
C808	VCEAGA1HW105M	J	1 50V Electrolytic	AC
C809	VCQYTA1HM153K	J	0.015 50V Mylar (14D-SCⒶ)	AA
C809	VCQYTA1HM153J	J	0.015 50V Mylar (14B-SCⒶ, 20B-SCⒶ)	AA
C810	VCCCPA1HH180J	J	18p 50V Ceramic	AA
C811	VCEAGA1HW106M	J	10 50V Electrolytic	AC
C812	VCQYTA1HM104K	J	0.1 50V Mylar (14D-SCⒶ)	AC
C812	VCQYTA1HM104J	J	0.1 50V Mylar (14B-SCⒶ, 20B-SCⒶ)	AA
C813	VCQYTA1HM104K	J	0.1 50V Mylar (14D-SCⒶ)	AC
C813	VCQYTA1HM104J	J	0.1 50V Mylar (14B-SCⒶ, 20B-SCⒶ)	AA
C814	VCEAGA1CW107M	J	100 16V Electrolytic	AB
C815	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C816	VCCSPA1HL470J	J	47p 50V Ceramic	AA
C817	VCCSPA1HL470J	J	47p 50V Ceramic	AA
C818	VCCSPA1HL470J	J	47p 50V Ceramic	AA
C819	VCQYTA1HM104K	J	0.1 50V Mylar (14D-SCⒶ)	AC
C819	VCQYTA1HM104J	J	0.1 50V Mylar (14B-SCⒶ, 20B-SCⒶ)	AA
C820	VCEAGA1AW477M	J	470 10V Electrolytic	AC
C821	VCEAGA1CW106M	J	10 16V Electrolytic	AA
C822	VCKYMN1CY103N	J	0.01 16V Ceramic	AA
C824	VCEAGA1CW476M	J	47 16V Electrolytic	AB
C825	VCKYMN1CY103N	J	0.01 16V Ceramic	AA
C826	VCCCPA1HH6R0D	J	6p 50V Ceramic	AA
C901	VCEAGA1CW476M	J	47 16V Electrolytic	AB
C902	VCKYMN1CY103N	J	0.01 16V Ceramic	AA
C903	VCFYHA1HA474J	J	0.47 50V M. Polyester	AC
C904	VCFYHA1HA474J	J	0.47 50V M. Polyester	AC
C906	VCCCPA1HH470J	J	47p 50V Ceramic	AA
C907	VCKYMN1CY103N	J	0.01 16V Ceramic	AA
C908	VCFYFA1HA104J	J	0.1 50V M. Polyester	AA
C909	VCCCPA1HH390J	J	39p 50V Ceramic	AA
C1001	VCEAGA1EW477M	J	470 25V Electrolytic (14D-SCⒶ, 14B-SCⒶ)	AD
C1002	VCEAGA1CW106M	J	10 16V Electrolytic	AA
C1003	VCEAGA0JW107M	J	100 6.3V Electrolytic	AB
C1004	VCEAGA1HW105M	J	1 50V Electrolytic (14D-SCⒶ, 14B-SCⒶ)	AC
C1004	VCEAGA0JW107M	J	100 6.3V Electrolytic (20B-SCⒶ)	AB
C1005	VCEAGA0JW107M	J	100 6.3V Electrolytic	AB
C1006	VCKYMN1CY103N	J	0.01 16V Ceramic	AA
C1007	VCEAGA0JW107M	J	100 6.3V Electrolytic	AB
C1008	VCKYD41CY103N	J	0.01 16V Ceramic	AA
C1009	VCKYD41CY103N	J	0.01 16V Ceramic	AA
C1010	VCEAGA1HW335M	J	3.3 50V Electrolytic	AB
C1011	VCEAGA1CW106M	J	10 16V Electrolytic	AA
C1012	VCCSPA1HL330J	J	33p 50V Ceramic	AA
C1013	VCCSPA1HL330J	J	33p 50V Ceramic	AA
C1014	VCCSPA1HL330J	J	33p 50V Ceramic	AA
C1015	VCCSPA1HL330J	J	33p 50V Ceramic	AA
C1016	VCQYTA1HM104K	J	0.1 50V Mylar (14D-SCⒶ)	AC
C1016	VCQYTA1HM104J	J	0.1 50V Mylar (14B-SCⒶ, 20B-SCⒶ)	AA
C1017	VCQYTA1HM104K	J	0.1 50V Mylar (14D-SCⒶ)	AC
C1017	VCQYTA1HM104J	J	0.1 50V Mylar (14B-SCⒶ, 20B-SCⒶ)	AA
C1018	VCEAGA1HW106M	J	10 50V Electrolytic	AC
C1019	VCCCPA1HH101J	J	100p 50V Ceramic	AA
C1020	VCCCPA1HH101J	J	100p 50V Ceramic	AA
C1021	VCKYMN1CY103N	J	0.01 16V Ceramic	AA
C1022	VCKYMN1CY103N	J	0.01 16V Ceramic	AA
C1023	VCEAGA0JW107M	J	100 6.3V Electrolytic	AB
C1024	VCEAGA0JW107M	J	100 6.3V Electrolytic	AB
C1025	VCEAGA1CW106M	J	10 16V Electrolytic	AA
C1026	VCCCPA1HH101J	J	100p 50V Ceramic	AA
C1029	VCFYFA1HA104J	J	0.1 50V M. Polyester	AA

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MOTHER UNIT (Continued)

RESISTORS

Ref. No.	Part No.	★	Description	Code
R201	VRD-RA2BE151J	J	150 1/8W Carbon	AA
R202	VRD-MN2BE392J	J	3.9k 1/8W Carbon	AA
R203	VRD-MN2BE562J	J	5.6k 1/8W Carbon	AA
R204	VRD-MN2BE471J	J	470 1/8W Carbon	AA
R205	VRD-RA2EE221J	J	220 1/4W Carbon	AA
R211	VRD-MN2BE220J	J	22 1/8W Carbon	AA
R212	VRD-MN2BE151J	J	150 1/8W Carbon	AA
R217	VRD-MN2BE473J	J	47k 1/8W Carbon	AA
R218	VRD-MN2BE473J	J	47k 1/8W Carbon	AA
R219	VRD-RA2BE100J	J	10 1/8W Carbon	AA
R220	VRD-MN2BE392J	J	3.9k 1/8W Carbon	AA
R222	VRD-MN2BE562J	J	5.6k 1/8W Carbon	AA
R223	VRD-MN2BE472J	J	4.7k 1/8W Carbon	AA
R224	VRD-MN2BE472J	J	4.7k 1/8W Carbon	AA
R225	VRD-MN2BE562J	J	5.6k 1/8W Carbon	AA
R226	VRD-MN2BE472J	J	4.7k 1/8W Carbon	AA
R227	VRD-MN2BE562J	J	5.6k 1/8W Carbon	AA
R228	VRD-MN2BE333J	J	33k 1/8W Carbon	AA
R229	VRD-MN2BE102J	J	1k 1/8W Carbon	AA
R230	VRD-MN2BE102J	J	1k 1/8W Carbon	AA
R231	VRD-MN2BE102J	J	1k 1/8W Carbon	AA
R233	VRD-MN2BE224J	J	220k 1/8W Carbon	AA
R234	VRD-MN2BE224J	J	220k 1/8W Carbon	AA
R236	VRD-MN2BE103J	J	10k 1/8W Carbon	AA
R238	VRD-MN2BE223J	J	22k 1/8W Carbon	AA
R241	VRD-RA2BE472J	J	4.7k 1/8W Carbon	AA
R301	VRD-RA2BE100J	J	10 1/8W Carbon	AA
R304	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R307	VRD-MN2BE333J	J	33k 1/8W Carbon	AA
R320	VRD-MN2BE332J	J	3.3k 1/8W Carbon	AA
R321	VRD-MN2BE333J	J	33k 1/8W Carbon	AA
R323	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R327	VRN-KT3LB8R2J	J	8.2 3W Metal Film (14D-SCⒶ)	AC
R327	VRN-RV3AB8R2J	J	8.2 1W Metal Film (14B-SCⒶ)	AB
R327	VRN-VV3LB4R7J	J	4.7 3W Metal Film (20B-SCⒶ)	AC
R336	VRD-MN2BE102J	J	1k 1/8W Carbon	AA
R337	VRD-RA2BE471J	J	470 1/8W Carbon	AA
R338	VRD-MN2BE332J	J	3.3k 1/8W Carbon	AA
R339	VRD-MN2BE100J	J	10 1/8W Carbon	AA
R340	VRD-MN2BE102J	J	1k 1/8W Carbon	AA
R341	VRD-MN2BE562J	J	5.6k 1/8W Carbon	AA
R342	VRD-MN2BE103J	J	10k 1/8W Carbon	AA
R343	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R389	VRD-MN2BE682J	J	6.8k 1/8W Carbon	AA
R402	VRD-MN2BE102J	J	1k 1/8W Carbon	AA
R403	VRD-MN2BE561J	J	560 1/8W Carbon	AA
R404	VRD-MN2BE561J	J	560 1/8W Carbon	AA
R503	VRD-MN2BE102J	J	1k 1/8W Carbon	AA

RESISTORS (Continued)

Ref. No.	Part No.	★	Description	Code
R504	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R505	VRD-MN2BE471J	J	470 1/8W Carbon	AA
R506	VRD-RA2BE152J	J	1.5k 1/8W Carbon	AA
R508	VRD-RA2BE392J	J	3.9k 1/8W Carbon	AA
R509	VRD-MN2BE103J	J	10k 1/8W Carbon	AA
R510	VRD-RA2BE272J	J	2.7k 1/8W Carbon	AA
R512	VRD-RM2HD331J	J	330 1/2W Carbon	AA
⚠ R513	RR-XZ0035TAZZ	J	22 1/4W Fuse Resistor	AB
R514	VRD-RM2HD102J	J	1k 1/2W Carbon	AA
R515	VRD-RM2HD102J	J	1k 1/2W Carbon	AA
R516	VRD-RM2HD102J	J	1k 1/2W Carbon	AA
R517	VRD-MN2BE393J	J	39k 1/8W Carbon	AA
R518	VRD-MN2BE273J	J	27k 1/8W Carbon	AA
R519	VRD-RM2HD222J	J	2.2k 1/2W Carbon	AA
R520	VRD-RA2BE473J	J	47k 1/8W Carbon	AA
R521	VRD-MN2BE101J	J	100 1/8W Carbon	AA
R522	VRD-MN2BE101J	J	100 1/8W Carbon	AA
R523	*See Controls*			
R524	VRD-MN2BE273J	J	27k 1/8W Carbon	AA
R525	VRD-RM2HD1R2J	J	1.2 1/2W Carbon	AA
R526	VRD-MN2BE101J	J	100 1/8W Carbon	AA
R527	*See Controls*			
R528	VRD-MN2BE473J	J	47k 1/8W Carbon	AA
R529	VRD-MN2BE103J	J	10k 1/8W Carbon	AA
R530	VRD-MN2BE103J	J	10k 1/8W Carbon	AA
R531	VRD-MN2BE683J	J	68k 1/8W Carbon	AA
R532	VRD-MN2BE223J	J	22k 1/8W Carbon	AA
R533	VRD-MN2BE102J	J	1k 1/8W Carbon	AA
R534	VRD-RA2BE272J	J	2.7k 1/8W Carbon	AA
R535	VRD-RM2HD470J	J	47 1/2W Carbon	AA
R536	VRD-RA2BE333J	J	33k 1/8W Carbon	AA
R537	VRD-RA2BE333J	J	33k 1/8W Carbon	AA
R538	VRD-MN2BE103J	J	10k 1/8W Carbon	AA
R539	VRD-MN2BE103J	J	10k 1/8W Carbon	AA
⚠ R540	RR-XZ0029CEZZ	J	3.3 1/2W Fuse Resistor	AB
R542	VRD-MN2BE272J	J	2.7k 1/8W Carbon	AA
R602	VRD-MN2BE102J	J	1k 1/8W Carbon	AA
R603	VRD-MN2BE472J	J	4.7k 1/8W Carbon	AA
R605	VRD-MN2BE102J	J	1k 1/8W Carbon	AA
R606	VRD-MN2BE101J	J	100 1/8W Carbon	AA
R607	VRD-MN2BE561J	J	560 1/8W Carbon	AA
R608	VRD-MN2BE221J	J	220 1/8W Carbon	AA
R609	VRD-MN2BE154J	J	150k 1/8W Carbon	AA
R610	VRW-KX3NC100K	J	10 7W Cement (14D-SCⒶ, 14B-SCⒶ)	AE
R610	VRW-KX4AC120K	J	12 10W Cement (20B-SCⒶ)	AD
⚠ R611	RR-XZ0073CEZZ	J	270 1/2W Fuse Resistor (14D-SCⒶ, 14B-SCⒶ)	AB
⚠ R611	RR-XZ0020CEZZ	J	39 1/4W Fuse Resistor (20B-SCⒶ)	AB
R612	VRD-RM2HD390J	J	39 1/2W Carbon (20B-SCⒶ)	AA
R613	VRD-RM2HD222J	J	2.2k 1/2W Carbon	AA
R614	VRD-RM2HD223J	J	22k 1/2W Carbon	AA

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MOTHER UNIT (Continued)

RESISTORS (Continued)

Ref. No.	Part No.	★	Description	Code
R615	VRD-RM2HD562J	J	5.6k 1/2W Carbon	AA
R616	VRN-RV3AB1R2J	J	1.2 1W Metal Film (14D-SC Ⓐ, 14B-SC Ⓐ)	AB
R616	VRN-RV3DB1R2J	J	1.2 2W Metal Film (20B-SC Ⓐ)	AB
R617	VRD-RA2EE101J	J	100 1/4W Carbon	AA
R618	VRD-RA2EE101J	J	100 1/4W Carbon	AA
R619	VRD-RM2HD184J	J	180k 1/2W Carbon	AA
R620	VRD-RA2EE223J	J	22k 1/4W Carbon	AA
⚠ R621	VRC-MA2HG562K	J	5.6k 1/2W Solid	AA
R622	VRD-RM2HD102J	J	1k 1/2W Carbon	AA
R623	VRD-RA2BE183J	J	18k 1/8W Carbon	AA
R624	VRD-MN2BE222J	J	2.2k 1/8W Carbon	AA
R625	VRD-RA2EE125J	J	1.2M 1/4W Carbon	AA
R626	VRD-MN2BE224J	J	220k 1/8W Carbon	AA
R627	VRD-MN2BE393J	J	39k 1/8W Carbon (14D-SC Ⓐ, 14B-SC Ⓐ)	AA
R627	VRD-MN2BE563J	J	56k 1/8W Carbon (20B-SC Ⓐ)	AA
R628	VRD-MN2BE564J	J	560k 1/8W Carbon	AA
R629	VRD-RA2BE273J	J	27k 1/8W Carbon	AA
R630	VRD-MN2BE221J	J	220 1/8W Carbon	AA
R631	VRD-MN2BE681J	J	680 1/8W Carbon	AA
R632	VRD-RM2HD392J	J	3.9k 1/2W Carbon (14D-SC Ⓐ, 14B-SC Ⓐ)	AA
R632	VRD-RM2HD472J	J	4.7k 1/2W Carbon (20B-SC Ⓐ)	AA
R634	VRD-RM2HD3R3J	J	3.3 1/2W Carbon	AA
R635	VRD-RM2HD560J	J	56 1/2W Carbon	AA
R636	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R637	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R638	VRD-RM2HD221J	J	220 1/2W Carbon (14D-SC Ⓐ, 14B-SC Ⓐ)	AA
R639	VRD-RM2HD390J	J	39 1/2W Carbon (20B-SC Ⓐ)	AA
R640	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R641	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R642	VRD-RA2BE683J	J	68k 1/8W Carbon	AA
R643	VRD-MN2BE223J	J	22k 1/8W Carbon	AA
R646	VRD-RA2BE153J	J	15k 1/8W Carbon (20B-SC Ⓐ)	AA
R647	VRD-MN2BE393J	J	39k 1/8W Carbon (20B-SC Ⓐ)	AA
R648	VRD-RA2BE1R0J	J	1 1/8W Carbon	AA
R653	VRD-MN2BE684J	J	680k 1/8W Carbon	AA
R654	VRS-SV3LB472J	J	4.7k 3W Metal Oxide (14D-SC Ⓐ, 14B-SC Ⓐ)	AC
R654	VRS-SV3LB392J	J	3.9k 3W Metal Oxide (20B-SC Ⓐ)	AC
R655	VRS-VV3DB153J	J	15k 2W Metal Oxide	AA
R663	VRD-RA2BE222J	J	2.2k 1/8W Carbon	AA
R664	VRD-RA2BE681J	J	680 1/8W Carbon	AA
R665	VRD-RA2EE104J	J	100k 1/4W Carbon	AA
R668	VRD-MN2BE103J	J	10k 1/8W Carbon	AA
R669	VRD-MN2BE103J	J	10k 1/8W Carbon	AA
R670	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R672	VRS-KT3LB121J	J	120 3W Metal Oxide (20B-SC Ⓐ)	AD
R673	VRD-RA2BE221J	J	220 1/8W Carbon (20B-SC Ⓐ)	AA
R674	VRD-RM2HD100J	J	10 1/2W Carbon (14D-SC Ⓐ, 14B-SC Ⓐ)	AA
R674	VRN-VV3AB8R2J	J	8.2 1W Metal Film (20B-SC Ⓐ)	AA
R675	VRD-RM2HD271J	J	270 1/2W Carbon (14D-SC Ⓐ, 14B-SC Ⓐ)	AA
R675	VRD-RM2HD122J	J	1.2k 1/2W Carbon (20B-SC Ⓐ)	AA
R676	VRD-RA2EE471J	J	470 1/4W Carbon (14D-SC Ⓐ, 14B-SC Ⓐ)	AA
R676	VRD-RA2EE102J	J	1k 1/4W Carbon (20B-SC Ⓐ)	AA
R677	VRD-RM2HD3R3J	J	3.3 1/2W Carbon (20B-SC Ⓐ)	AA
⚠ R702	VRW-KV3HC6R8K	J	6.8 5W Cement (14D-SC Ⓐ, 14B-SC Ⓐ)	AC
⚠ R702	VRW-KV3NC6R8K	J	6.8 7W Cement (20B-SC Ⓐ)	AC
⚠ R703	VRS-KT3LB273J	J	27k 3W Metal Oxide (14D-SC Ⓐ)	AD
⚠ R703	VRS-SV3LB273J	J	27k 3W Metal Oxide (14B-SC Ⓐ, 20B-SC Ⓐ)	AC
⚠ R704	VRS-VV3DB220J	J	22 2W Metal Oxide (14D-SC Ⓐ, 14B-SC Ⓐ)	AA
⚠ R704	VRS-VV3DB100J	J	10 2W Metal Oxide (20B-SC Ⓐ)	AA
⚠ R705	VRD-RM2HD150J	J	15 1/2W Carbon (14D-SC Ⓐ, 14B-SC Ⓐ)	AA
⚠ R705	VRD-RM2HD2R2J	J	2.2 1/2W Carbon (20B-SC Ⓐ)	AA
⚠ R706	VRD-RA2BE124J	J	120k 1/8W Carbon (14D-SC Ⓐ, 20B-SC Ⓐ)	AA
⚠ R706	VRD-RA2BE184J	J	180k 1/8W Carbon (14B-SC Ⓐ)	AA
⚠ R707	VRD-MN2BE390J	J	39 1/8W Carbon	AA
⚠ R708	VRS-SV3LB124J	J	120k 3W Metal Oxide	AC
⚠ R709	VRD-RM2HD470J	J	47 1/2W Carbon (14B-SC Ⓐ)	AA
⚠ R710	VRD-RA2BE392J	J	3.9k 1/8W Carbon	AA
⚠ R711	*See Controls*			
⚠ R712	VRD-MN2BE681J	J	680 1/8W Carbon	AA
⚠ R713	VRD-RA2EE225J	J	2.2M 1/4W Carbon	AA
⚠ R714	VRD-RA2BE184J	J	180k 1/8W Carbon (14D-SC Ⓐ)	AA
⚠ R714	VRD-RA2BE104J	J	100k 1/8W Carbon (14B-SC Ⓐ)	AA

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MOTHER UNIT (Continued)

RESISTORS (Continued)

Ref. No.	Part No.	★	Description	Code
⚠ R714	VRD-RA2BE124J	J	120k 1/8W Carbon (20B-SC Ⓐ)	AA
⚠ R715	VRD-MN2BE103J	J	10k 1/8W Carbon	AA
⚠ R716	VRD-RA2BE180J	J	18 1/8W Carbon	AA
⚠ R717	VRD-RA2BE101J	J	100 1/8W Carbon	AA
⚠ R718	VRN-VV3ABR22J	J	0.22 1W Metal Film (14D-SC Ⓐ, 20B-SC Ⓐ)	AA
⚠ R718	VRN-VV3ABR33J	J	0.33 1W Metal Film (14B-SC Ⓐ)	AA
⚠ R719	VRC-UA2HG825K	J	8.2M 1/2W Solid	AA
⚠ R720	VRC-UA2HG825K	J	8.2M 1/2W Solid	AA
⚠ R723	VRS-SV3LB272J	J	2.7k 3W Metal Oxide	AD
⚠ R724	VRD-MN2BE102J	J	1k 1/8W Carbon	AA
⚠ R725	VRD-MN2BE820J	J	82 1/8W Carbon (14D-SC Ⓐ, 14B-SC Ⓐ)	AA
⚠ R725	VRD-MN2BE181J	J	180 1/8W Carbon (20B-SC Ⓐ)	AA
⚠ R735	VRD-RM2HD184J	J	180k 1/2W Carbon	AA
⚠ R736	VRD-RM2HD184J	J	180k 1/2W Carbon	AA
R801	VRD-MN2BE332J	J	3.3k 1/8W Carbon	AA
R803	VRD-MN2BE561J	J	560 1/8W Carbon	AA
R804	VRD-RA2BE561J	J	560 1/8W Carbon	AA
R805	VRD-MN2BE561J	J	560 1/8W Carbon	AA
R806	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R807	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R808	VRD-RA2BE392J	J	3.9k 1/8W Carbon	AA
R809	VRD-RA2BE392J	J	3.9k 1/8W Carbon	AA
R810	VRD-RA2BE392J	J	3.9k 1/8W Carbon	AA
R811	VRD-MN2BE561J	J	560 1/8W Carbon	AA
R812	VRD-RA2BE221J	J	220 1/8W Carbon	AA
R813	VRD-RA2BE221J	J	220 1/8W Carbon	AA
R814	VRD-RA2BE221J	J	220 1/8W Carbon	AA
R815	VRD-MN2BE102J	J	1k 1/8W Carbon	AA
R816	VRD-MN2BE101J	J	100 1/8W Carbon	AA
R817	VRD-MN2BE102J	J	1k 1/8W Carbon	AA
R818	VRD-MN2BE101J	J	100 1/8W Carbon	AA
R819	VRD-MN2BE102J	J	1k 1/8W Carbon	AA
R820	VRD-MN2BE101J	J	100 1/8W Carbon	AA
R821	VRD-RA2BE222J	J	2.2k 1/8W Carbon	AA
R822	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R823	VRD-MN2BE223J	J	22k 1/8W Carbon	AA
R825	VRD-RA2EE474J	J	470k 1/4W Carbon	AA
R828	VRD-RA2BE563J	J	56k 1/8W Carbon (14D-SC Ⓐ, 14B-SC Ⓐ)	AA
R828	VRD-RA2BE473J	J	47k 1/8W Carbon (20B-SC Ⓐ)	AA
R829	VRD-MN2BE124J	J	120k 1/8W Carbon	AA
R871	VRD-MN2BE333J	J	33k 1/8W Carbon	AA
R901	VRD-MN2BE122J	J	1.2k 1/8W Carbon	AA
R906	VRD-MN2BE122J	J	1.2k 1/8W Carbon	AA
R907	VRD-RU2EE153J	J	15k 1/4W Carbon	AA

RESISTORS (Continued)

Ref. No.	Part No.	★	Description	Code
R1001	VRD-RM2HD680J	J	68 1/2W Carbon	AA
R1002	VRD-RM2HD680J	J	68 1/2W Carbon	AA
R1003	VRD-RA2EE102J	J	1k 1/4W Carbon	AA
R1004	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R1005	VRD-MN2BE562J	J	5.6k 1/8W Carbon	AA
R1006	VRD-MN2BE473J	J	47k 1/8W Carbon	AA
R1007	VRD-RA2BE562J	J	5.6k 1/8W Carbon	AA
R1008	VRD-MN2BE103J	J	10k 1/8W Carbon	AA
R1009	VRD-MN2BE472J	J	4.7k 1/8W Carbon	AA
R1010	VRD-MN2BE101J	J	100 1/8W Carbon	AA
R1011	VRD-MN2BE101J	J	100 1/8W Carbon	AA
R1012	VRD-RA2BE333J	J	33k 1/8W Carbon	AA
R1014	VRD-RA2BE562J	J	5.6k 1/8W Carbon	AA
R1015	VRD-MN2BE103J	J	10k 1/8W Carbon	AA
R1016	VRD-RA2BE563J	J	56k 1/8W Carbon	AA
R1017	VRD-RA2BE273J	J	27k 1/8W Carbon	AA
R1018	VRD-MN2BE563J	J	56k 1/8W Carbon	AA
R1019	VRD-MN2BE102J	J	1k 1/8W Carbon	AA
R1021	VRD-RA2BE562J	J	5.6k 1/8W Carbon	AA
R1022	VRD-MN2BE562J	J	5.6k 1/8W Carbon	AA
R1023	VRD-MN2BE562J	J	5.6k 1/8W Carbon	AA
R1024	VRD-MN2BE103J	J	10k 1/8W Carbon	AA
R1025	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R1026	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R1027	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R1028	VRD-MN2BE562J	J	5.6k 1/8W Carbon	AA
R1029	VRD-MN2BE562J	J	5.6k 1/8W Carbon	AA
R1030	VRD-MN2BE562J	J	5.6k 1/8W Carbon	AA
R1031	VRD-MN2BE101J	J	100 1/8W Carbon	AA
R1032	VRD-MN2BE101J	J	100 1/8W Carbon	AA
R1033	VRD-MN2BE101J	J	100 1/8W Carbon	AA
R1034	VRD-MN2BE562J	J	5.6k 1/8W Carbon	AA
R1035	VRD-MN2BE152J	J	1.5k 1/8W Carbon	AA
R1036	VRD-RA2BE392J	J	3.9k 1/8W Carbon	AA
R1037	VRD-RA2BE392J	J	3.9k 1/8W Carbon	AA
R1038	VRD-RA2BE392J	J	3.9k 1/8W Carbon	AA
R1039	VRD-MN2BE102J	J	1k 1/8W Carbon	AA
R1040	VRD-MN2BE102J	J	1k 1/8W Carbon	AA
R1041	VRD-MN2BE101J	J	100 1/8W Carbon	AA
R1042	VRD-MN2BE101J	J	100 1/8W Carbon	AA
R1043	VRD-RA2EE821J	J	820 1/4W Carbon (14D-SC Ⓐ)	AA
R1043	VRD-RA2EE221J	J	220 1/4W Carbon (14B-SC Ⓐ, 20B-SC Ⓐ)	AA
R1044	VRD-RA2BE271J	J	270 1/8W Carbon (14D-SC Ⓐ)	AA
R1044	VRD-RA2BE331J	J	330 1/8W Carbon (14B-SC Ⓐ, 20B-SC Ⓐ)	AA
R1045	VRD-MN2BE223J	J	22k 1/8W Carbon	AA
R1046	VRD-RA2EE181J	J	180 1/4W Carbon (14D-SC Ⓐ)	AA
R1046	VRD-RA2EE471J	J	470 1/4W Carbon (14B-SC Ⓐ, 20B-SC Ⓐ)	AA
R1047	VRD-RA2EE271J	J	270 1/4W Carbon (14D-SC Ⓐ)	AA

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MOTHER UNIT (Continued)

RESISTORS (Continued)

Ref. No.	Part No.	★	Description	Code
R1047	VRD-RA2EE221J	J	220 1/4W Carbon (14B-SCⒶ, 20B-SCⒶ)	AA
R1055	VRD-MN2BE101J	J	100 1/8W Carbon	AA
R1061	VRD-MN2BE562J	J	5.6k 1/8W Carbon	AA
R1062	VRD-MN2BE563J	J	56k 1/8W Carbon	AA
R1064	VRD-MN2BE563J	J	56k 1/8W Carbon	AA
R1066	VRD-RA2BE563J	J	56k 1/8W Carbon	AA
R1067	VRD-RA2BE563J	J	56k 1/8W Carbon	AA
R1069	VRD-MN2BE563J	J	56k 1/8W Carbon	AA
R1071	VRD-MN2BE102J	J	1k 1/8W Carbon	AA
R1072	VRD-RA2BE273J	J	27k 1/8W Carbon	AA
R1073	VRD-MN2BE563J	J	56k 1/8W Carbon	AA
R1074	VRD-MN2BE563J	J	56k 1/8W Carbon	AA
R1075	VRD-MN2BE273J	J	27k 1/8W Carbon	AA
R1076	VRD-RA2BE563J	J	56k 1/8W Carbon (14D-SCⒶ)	AA
R1077	VRD-RA2BE563J	J	56k 1/8W Carbon (14D-SCⒶ)	AA
R1078	VRD-MN2BE562J	J	5.6k 1/8W Carbon	AA
R1079	VRD-MN2BE562J	J	5.6k 1/8W Carbon	AA
R1080	VRD-MN2BE562J	J	5.6k 1/8W Carbon	AA
R1081	VRD-MN2BE562J	J	5.6k 1/8W Carbon	AA
R1082	VRD-MN2BE103J	J	10k 1/8W Carbon	AA
R1083	VRD-MN2BE103J	J	10k 1/8W Carbon	AA
R1084	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R1085	VRD-RA2BE101J	J	100 1/8W Carbon (14B-SCⒶ, 20B-SCⒶ)	AA
R1086	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R1087	VRD-MN2BE153J	J	15k 1/8W Carbon	AA
R1088	VRD-RA2BE822J	J	8.2k 1/8W Carbon	AA
R1089	VRD-RA2BE153J	J	15k 1/8W Carbon	AA
R1090	VRD-RA2BE123J	J	12k 1/8W Carbon	AA
R1091	VRD-RA2EE153J	J	15k 1/4W Carbon	AA
R1092	VRD-RA2BE333J	J	33k 1/8W Carbon	AA
R1093	VRD-MN2BE333J	J	33k 1/8W Carbon	AA
R1094	VRD-MN2BE684J	J	680k 1/8W Carbon	AA
R1096	VRD-MN2BE563J	J	56k 1/8W Carbon	AA

SWITCHES

Ref. No.	Part No.	★	Description	Code
S501	QSW-B0015CEZZ	J	Vertical Center Adj.	AC
⚠ S701	QSW-P0566CEZZ	J	Power (14D-SCⒶ)	AL
⚠ S701	QSW-P0418CEZZ	J	Power (14B-SCⒶ, 20B-SCⒶ)	AK
S1001	QSW-K0079GEZZ	J	Channel ∧ (14D-SCⒶ)	AB
S1001	QSW-K0068CEZZ	J	Channel ∧ (14B-SCⒶ, 20B-SCⒶ)	AB
S1002	QSW-K0079GEZZ	J	Channel ∨ (14D-SCⒶ)	AB
S1002	QSW-K0068CEZZ	J	Channel ∨ (14B-SCⒶ, 20B-SCⒶ)	AB

SWITCHES (Continued)

Ref. No.	Part No.	★	Description	Code
S1003	QSW-K0079GEZZ	J	Volume ∧ (14D-SCⒶ)	AB
S1003	QSW-K0068CEZZ	J	Volume ∧ (14B-SCⒶ, 20B-SCⒶ)	AB
S1004	QSW-K0079GEZZ	J	Volume ∨ (14D-SCⒶ)	AB
S1004	QSW-K0068CEZZ	J	Volume ∨ (14B-SCⒶ, 20B-SCⒶ)	AB
S1005	QSW-K0079GEZZ	J	Pre-Set (14D-SCⒶ)	AB
S1005	QSW-K0068CEZZ	J	P-Mode (14B-SCⒶ, 20B-SCⒶ)	AB
S1006	QSW-K0079GEZZ	J	Mode (14D-SCⒶ)	AB
S1006	QSW-K0068CEZZ	J	Pre-set (14B-SCⒶ, 20B-SCⒶ)	AB
S1007	QSW-K0079GEZZ	J	Skip (14D-SCⒶ)	AB
S1007	QSW-K0068CEZZ	J	Skip (14B-SCⒶ, 20B-SCⒶ)	AB
S1008	QSW-B0015CEZZ	J	Set-Up Mode	AC

MISCELLANEOUS PARTS

Ref. No.	Part No.	★	Description	Code
CN401	QCNW-1290PEZZ	J	Connecting Wire (14D-SCⒶ)	AK
CN401	QCNW-1749PEZZ	J	Connecting Wire (14B-SCⒶ, 20B-SCⒶ)	AK
CN601	QCNW-0430PEZZ	J	Connecting Wire (20B-SCⒶ)	AC
⚠ F300	QFS-J1221TAZZ	J	IC Protector (14D-SCⒶ)	AE
⚠ F300	QFS-J1021CEZZ	J	IC Protector (14B-SCⒶ, 20B-SCⒶ)	AE
⚠ F701	QFS-C3224CEZZ	J	Fuse, T3.15A (14D-SCⒶ)	AD
⚠ F701	QFS-C2024CEZZ	J	Fuse, T2A (14B-SCⒶ, 20B-SCⒶ)	AD
FB305	RBLN-0037CEZZ	J	Ferrite Bead (14D-SCⒶ)	AB
FB601	RBLN-0037CEZZ	J	Ferrite Bead (14D-SCⒶ)	AB
FB601	RBLN-0010CEZZ	J	Ferrite Bead (14B-SCⒶ, 20B-SCⒶ)	AC
FB603	RBLN-0036CEZZ	J	Ferrite Bead (14D-SCⒶ)	AB
FB603	RBLN-0018CEZZ	J	Ferrite Bead (14B-SCⒶ, 20B-SCⒶ)	AB
⚠ FB701	RBLN-0037CEZZ	J	Ferrite Bead (14D-SCⒶ)	AB
⚠ FB701	RBLN-0010CEZZ	J	Ferrite Bead (20B-SCⒶ)	AC
⚠ FB702	RBLN-0037CEZZ	J	Ferrite Bead	AB
FB731	RBLN-0010CEZZ	J	Ferrite Bead (14D-SCⒶ)	AC
⚠ FH701	QFSHD1009CEZZ	J	Fuse Holder, for F701	AA
⚠ FH702	QFSHD1010CEZZ	J	Fuse Holder, for F701	AA
⚠ J401	QJAKF0011CEZZ	J	Jack, AV Input (14D-SCⒶ)	AG
⚠ J401	QJAKH0007CEZZ	J	Jack, AV Input/Output (14B-SCⒶ, 20B-SCⒶ)	AL
P201	QPLGN0241CE04	J	Plug 2-pin, (TP201)	AA
P301	QPLGN0241CEZZ	J	Plug 2-pin, (S)	AA
P308	QPLGN0341CEZZ	J	Plug 3-pin, (SA) (20B-SCⒶ)	AA

Ref. No.	Part No.	★	Description	Code

PWB-A DUNTK8600WEV2 DUNTK8615WEV1/V0 MOTHER UNIT (Continued)

MISCELLANEOUS PARTS (Continued)

P401	QPLGN0461CEZZ	J	Plug 4-pin, (VA) (14D-SC Ⓐ)	AB
P401	QPLGN0841CEZZ	J	Plug 8-pin, (VA) (14B-SC Ⓐ, 20B-SC Ⓐ)	AB
P603	QPLGN0441CEZZ	J	Plug 4-pin, (H)	AB
P604	QPLGN0505CEZZ	J	Plug 5-pin, (F)	AB
P605	QPLGN0207CEZZ	J	Plug 2-pin, H-Size (20B-SC Ⓐ)	AA
⚠ P711	QPLGN0207CEZZ	J	Plug 2-pin, (G)	AA
⚠ P712	QPLGN0304CEZZ	J	Plug 3-pin, (A)	AB
P801	QPLGN0561CEZZ	J	Plug 5-pin, (K) (14D-SC Ⓐ)	AB
P801	QPLGN0541CEZZ	J	Plug 5-pin, (K) (14B-SC Ⓐ, 20B-SC Ⓐ)	AB
P1001	QPLGN0441CE04	J	Plug 4-pin, (BC)	AA
RMC1001	RRMCU0210CEZZ	J	Remote Control Receiver (14D-SC Ⓐ, 14B-SC Ⓐ)	AK
RMC1001	RRMCU0208CEZZ	J	Remote Control Receiver (20B-SC Ⓐ)	AK
	LHLDP1017PE00	R	LED Holder	AB

— End of PWB-A —

PWB-C DUNTK8598WEV0/V1 CRT SOCKET UNIT (14D-SC Ⓐ and 14B-SC Ⓐ)

TRANSISTORS

Q851	VS2SC2229O/1E	J	2SC2229(O)	AD
Q852	VS2SC2229O/1E	J	2SC2229(O)	AD
Q853	VS2SC2229O/1E	J	2SC2229(O)	AD
Q854	VS2SA1015Y/1E	J	2SA1015(Y)	AC

DIODE

D851	VHD1SS119//1E	J	1SS119	AA

COIL

L851	VP-CF681K0000	J	680μH	AB

CAPACITORS

C851	VCKYD41HB391K	J	390p	50V	Ceramic		AA
C852	VCKYD41HB331K	J	330p	50V	Ceramic		AA
C853	VCKYD41HB391K	J	390p	50V	Ceramic		AA
C854	RC-KZ015JCEZZ	J	0.01	1.5kV	Ceramic		AB
C855	VCEAGA2DW106M	J	10	200V	Electrolytic		AC
C859	VCKYD41CY103N	J	0.01	16V	Ceramic		AA
C861	VCEAGA1CW336M	J	33	16V	Electrolytic		AB
C865	VCKYPA2HB102K	J	1000p	500V	Ceramic		AA
C867	VCEAGA1CW107M	J	100	16V	Electrolytic		AB
C870	VCEAGA1CW106M	J	10	16V	Electrolytic		AA

RESISTORS

R851	VRD-RA2BE561J	J	560	1/8W	Carbon		AA
R852	VRD-RA2BE681J	J	680	1/8W	Carbon		AA
R855	VRD-RM2HD272J	J	2.7k	1/2W	Carbon		AA
R856	VRD-RA2BE561J	J	560	1/8W	Carbon		AA
R858	VRD-RA2BE681J	J	680	1/8W	Carbon		AA
R860	VRS-VV3DB123J	J	12k	2W	Metal Oxide		AA
R861	VRD-RM2HD272J	J	2.7k	1/2W	Carbon		AA
R862	VRD-RA2BE561J	J	560	1/8W	Carbon		AA
R866	VRS-VV3DB123J	J	12k	2W	Metal Oxide		AA
R867	VRD-RM2HD272J	J	2.7k	1/2W	Carbon		AA
R868	VRS-VV3DB123J	J	12k	2W	Metal Oxide		AA
R874	VRD-RA2BE681J	J	680	1/8W	Carbon		AA
R875	VRD-RA2BE560J	J	56	1/8W	Carbon		AA
R876	VRD-RA2BE560J	J	56	1/8W	Carbon		AA
R877	VRD-RA2BE560J	J	56	1/8W	Carbon		AA
R878	VRD-RA2BE471J	J	470	1/8W	Carbon		AA
R879	VRD-RA2BE272J	J	2.7k	1/8W	Carbon		AA
R880	VRD-RA2BE101J	J	100	1/8W	Carbon		AA
R881	VRD-RA2BE152J	J	1.5k	1/8W	Carbon		AA

MISCELLANEOUS PARTS

P851	QPLGN0341CEZZ	J	Plug 3-pin, (H)	AA
P852	QPLGN0541CEZZ	J	Plug 5-pin, (K)	AB
⚠ SC851	QSOCV0829CEZZ	J	CRT Socket	AK

— End of PWB-C (14D-SC Ⓐ and 14B-SC Ⓐ) —

Ref. No.	Part No.	★	Description	Code

PWB-C DUNTK8446WEV2
CRT SOCKET UNIT (20B-SCⒶ)

TRANSISTORS

Q851	VS2SC3417//1E	J	2SC3417	AC
Q852	VS2SC3417//1E	J	2SC3417	AC
Q853	VS2SC3417//1E	J	2SC3417	AC
Q854	VS2SA1015Y/1E	J	2SA1015(Y)	AC

DIODE

D851	VHD1SS119//1E	J	1SS119	AA

COIL

L851	VP-CF681K0000	J	680μH	AB

CAPACITORS

C851	VCKYD41HB391K	J	390p	50V	Ceramic	AA
C852	VCKYD41HB391K	J	390p	50V	Ceramic	AA
C853	VCKYD41HB391K	J	390p	50V	Ceramic	AA
C854	VCEAGA1CW336M	J	33	16V	Electrolytic	AB
C855	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C856	VCEAGA2DW106M	J	10	200V	Electrolytic	AC
C857	RC-KZ0150CEZZ	J	1000p	3kV	Ceramic	AB
C858	VCKYPA2HB102K	J	1000p	500V	Ceramic	AA
C859	VCKYD41CY103N	J	0.01	16V	Ceramic	AA
C861	VCEAGA1CW107M	J	100	16V	Electrolytic	AB

RESISTORS

R851	VRD-RA2BE560J	J	56	1/8W	Carbon	AA
R852	VRD-RA2BE560J	J	56	1/8W	Carbon	AA
R853	VRD-RA2BE560J	J	56	1/8W	Carbon	AA
R854	VRS-VV3DB123J	J	12k	2W	Metal Oxide	AA
R855	VRS-VV3DB123J	J	12k	2W	Metal Oxide	AA
R856	VRS-VV3DB123J	J	12k	2W	Metal Oxide	AA
R857	VRD-RM2HD272J	J	2.7k	1/2W	Carbon	AA
R858	VRD-RM2HD272J	J	2.7k	1/2W	Carbon	AA
R859	VRD-RM2HD272J	J	2.7k	1/2W	Carbon	AA
R860	VRD-RA2BE681J	J	680	1/8W	Carbon	AA
R861	VRD-RA2BE681J	J	680	1/8W	Carbon	AA
R862	VRD-RA2BE681J	J	680	1/8W	Carbon	AA
R863	VRD-RA2BE471J	J	470	1/8W	Carbon	AA
R864	VRD-RA2BE471J	J	470	1/8W	Carbon	AA
R865	VRD-RA2BE471J	J	470	1/8W	Carbon	AA
R866	VRD-RA2BE272J	J	2.7k	1/8W	Carbon	AA
R867	VRD-RA2BE152J	J	1.5k	1/8W	Carbon	AA
R868	VRD-RA2BE471J	J	470	1/8W	Carbon	AA
R869	VRD-RA2BE101J	J	100	1/8W	Carbon	AA

MISCELLANEOUS PARTS

P851	QPLGN0541CEZZ	J	Plug 5-pin, (K)	AB
P852	QPLGN0441CEZZ	J	Plug 4-pin, (H)	AB
⚠ SC851	QSOCV0913CEZZ	J	CRT Socket	AK

— End of PWB-C (20B-SCⒶ) —

Ref. No.	Part No.	★	Description	Code

PWB-D DUNTK8599WEV2/V1
AV UNIT

INTEGRATED CIRCUITS

IC2301	VHiM52317SP-1	J	Sound Converter	AK
IC2302	VHiTA7347P/-1	J	Audio Switch	AG
IC2304	VHiUPC358C/-1	J	Operation Amp.	AD
IC2401	VHiLA7956//-1	J	Video Switch	AG

TRANSISTORS

Q2301	VS2SC945AP/-1	J	2SC945A(P) (14B-SCⒶ, 20B-SCⒶ)	AB
Q2401	VS2SC945AP/-1	J	2SC945A(P)	AB
Q2402	VS2SC945AP/-1	J	2SC945A(P)	AB
Q2403	VS2SC945AP/-1	J	2SC945A(P)	AB
Q2405	VS2SC945AP/-1	J	2SC945A(P) (14B-SCⒶ, 20B-SCⒶ)	AB

DIODES

D2401	RH-EX0041TAZZ	J	Zener Diode, 9.1V	AC
D2402	RH-EX0041TAZZ	J	Zener Diode, 9.1V	AC

COILS

CF2301	RFiLC0258CEZZ	J	Ceramic Filter, 6.5 MHz	AD
CF2302	RFiLC0270CEZZ	J	Ceramic Filter, 5.5 MHz	AD
CF2305	RFiLA0072CEZZ	J	1 MHz Oscillator	AE
CF2401	RFiLC0150CEZZ	J	5.5/6.0 MHz Trap Coil	AF
CF2402	RFiLC0024CEZZ	J	6.5 MHz Trap Coil	AE
L2401	VP-DF100K0000	J	Coil, 10μH	AB
L2402	VP-DF150K0000	J	Coil, 15μH	AB
L2403	VP-DF150K0000	J	Coil, 15μH	AB

CAPACITORS

C2301	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2302	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2303	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2304	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2305	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C2306	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2307	VCCCPA1HH180J	J	18p	50V	Ceramic	AA
C2308	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2309	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2310	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2311	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C2312	VCEAGA1HW334M	J	0.33	50V	Electrolytic	AA
C2314	VCEAGA1CW476M	J	47	16V	Electrolytic	AB
C2315	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C2316	VCEAGA1CW476M	J	47	16V	Electrolytic (14B-SCⒶ, 20B-SCⒶ)	AB
C2317	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C2325	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C2402	VCEAGA1CW476M	J	47	16V	Electrolytic	AB

PWB-D DUNTK8599WEV2/V1
AV UNIT (Continued)

CAPACITORS (Continued)

Ref. No.	Part No.	★	Description	Code
C2403	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C2404	VCCCPA1HH820J	J	82p 50V Ceramic	AA
C2405	VCEAGA1CW107M	J	100 16V Electrolytic	AB
C2406	VCEAGA1CW106M	J	10 16V Electrolytic	AA
C2408	VCEAGA1AW477M	J	470 10V Electrolytic (14B-SCⒶ, 20B-SCⒶ)	AC
C2409	VCEAGA1CW106M	J	10 16V Electrolytic	AA
C2410	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C2411	VCKYD41CY103N	J	0.01 16V Ceramic	AA
C2413	VCEAGA1CW477M	J	470 16V Electrolytic	AC
C2414	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C2415	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C2416	VCEAGA1HW225M	J	2.2 50V ELectrolyic	AB
C2419	VCEAGA1CW107M	J	100 16V Electrolytic	AB

RESISTORS

Ref. No.	Part No.	★	Description	Code
R2301	VRD-RA2BE471J	J	470 1/8W Carbon	AA
R2302	VRD-RA2BE681J	J	680 1/8W Carbon	AA
R2303	VRD-RA2BE561J	J	560 1/8W Carbon	AA
R2304	VRD-RA2B821J	J	820 1/8W Carbon	AA
R2309	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R2310	VRD-RA2BE681J	J	680 1/8W Carbon	AA
R2312	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R2313	VRD-RA2BE182J	J	1.8k 1/8W Carbon	AA
R2316	VRD-RA2BE153J	J	15k 1/8W Carbon	AA
R2317	VRD-RA2BE123J	J	12k 1/8W Carbon	AA
R2318	VRD-RA2BE331J	J	330 1/8W Carbon (14B-SCⒶ, 20B-SCⒶ)	AA
R2319	VRD-RA2BE104J	J	100k 1/8W Carbon (14B-SCⒶ, 20B-SCⒶ)	AA
R2320	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R2333	VRD-RA2BE331J	J	330 1/8W Carbon (14B-SCⒶ, 20B-SCⒶ)	AA
R2334	VRD-RA2BE103J	J	10k 1/8W Carbon (14B-SCⒶ, 20B-SCⒶ)	AA
R2335	VRD-RA2BE103J	J	10k 1/8W Carbon (14B-SCⒶ, 20B-SCⒶ)	AA
R2339	VRD-RA2BE471J	J	470 1/8W Carbon	AA
R2340	VRD-RA2BE122J	J	1.2k 1/8W Carbon	AA
R2402	VRD-RA2BE681J	J	680 1/8W Carbon	AA
R2403	VRD-RA2EE391J	J	390 1/4W Carbon	AA
R2404	VRD-RA2BE331J	J	330 1/8W Carbon	AA
R2405	VRD-RA2BE222J	J	2.2k 1/8W Carbon	AA
R2406	VRD-RA2BE472J	J	4.7k 1/8W Carbon	AA
R2407	VRD-RA2BE122J	J	1.2k 1/8W Carbon	AA
R2408	VRD-RA2BE122J	J	1.2k 1/8W Carbon	AA
R2409	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R2410	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R2411	VRD-RA2BE331J	J	330 1/8W Carbon	AA
R2413	VRD-RA2BE563J	J	56k 1/8W Carbon	AA

RESISTORS (Continued)

Ref. No.	Part No.	★	Description	Code
R2414	VRD-RA2BE333J	J	33k 1/8W Carbon	AA
R2417	VRD-RA2BE151J	J	150 1/8W Carbon	AA
R2418	VRD-RA2BE564J	J	560k 1/8W Carbon	AA
R2419	VRD-RA2BE100J	J	10 1/8W Carbon	AA
R2420	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R2421	VRD-RA2BE471J	J	470 1/8W Carbon	AA
⚠ R2426	RR-XZ0026CEZZ	J	10 1/4W Fuse Resistor	AB
⚠ R2427	RR-XZ0026CEZZ	J	10 1/4W Fuse Resistor	AB
R2428	VRD-RM2HD103J	J	10k 1/2W Carbon (14B-SCⒶ, 20B-SCⒶ)	AA
R2429	VRD-RA2EE750J	J	75 1/4W Carbon (14B-SCⒶ, 20B-SCⒶ)	AA
R2430	VRD-RA2BE101J	J	100 1/8W Carbon (14B-SCⒶ, 20B-SCⒶ)	AA
R2431	VRD-RA2EE750J	J	75 1/4W Carbon	AA
R2433	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R2435	VRD-RA2BE564J	J	560k 1/8W Carbon	AA
R2437	VRD-RA2EE181J	J	180 1/4W Carbon (14B-SCⒶ, 20B-SCⒶ)	AA
R2445	VRD-RA2BE182J	J	1.8k 1/8W Carbon	AA

MISCELLANEOUS PARTS

Ref. No.	Part No.	★	Description	Code
P2401	QPLGZ0807GEZZ	J	Plug 8-pin, (YA)	AC
P2402	QPLGZ0607GEZZ	J	Plug 6-pin, (YB)	AC
P2403	QPLGN0461CEZZ	J	Plug 4-pin, (VA) (14D-SCⒶ)	AB
P2403	QPLGN0841CEZZ	J	Plug 8-pin, (VA) (14B-SCⒶ, 20B-SCⒶ)	AB

—— End of PWB-D ——

Ref. No.	Part No.	★	Description	Code

MISCELLANEOUS PARTS

CN301	QCNW-1240PEZZ	R	Connecting Wire, Speaker (14D-SCⒶ, 14B-SCⒶ)	AE
CN301	QCNW-1509PEZZ	R	Connecting Wire, Speaker (20B-SCⒶ)	AH
CN851	QCNW-1341PEZZ	R	Connecting Wire, (H) (14D-SCⒶ)	AF
CN851	QCNW-1264PEZZ	R	Connecting Wire, (H) (14B-SCⒶ)	AG
CN851	QCNW-1595PEZZ	R	Connecting Wire, (H) (20B-SCⒶ)	AG
CN852	QCNW-1595PEZZ	R	Connecting Wire, (K) (14D-SCⒶ)	AG
CN852	QCNW-1341PEZZ	R	Connecting Wire, (K) (14B-SCⒶ)	AF
CN852	QCNW-1266PEZZ	R	Connecting Wire, (K) (20B-SCⒶ)	AF
SP1	VSP0010P-Q0WA	J	Speaker (14D-SCⒶ)	AN
SP1	VSP0080P-G5YB	R	Speaker (14B-SCⒶ)	AN
SP1	VSP0080P-H28A	R	Speaker (20B-SCⒶ)	AM
SP2	VSP0080P-H28A	R	Speaker (20B-SCⒶ)	AM
	LHLDW0001PEK0	R	AC Cord Holder (14D-SCⒶ, 20B-SCⒶ)	AD
	LHLDK0001PEZZ	R	AC Cord Holder (14B-SCⒶ)	AC
⚠ ACC701	QACCZ2001PESA	R	AC Cord	AN

—— End of MISCELLANEOUS PARTS ——

PACKING PARTS
(*NOT REPLACEMENT ITEM*)

14D-SCⒶ

SPAKC5936PEZZ	–	Packing Case	—
SPAKP0056PEZZ	–	Polystyrene Mat	—
SPAKX0390PEZZ	–	Packing Material	—
TLABK0002PEZZ	–	Number Card	—

14B-SCⒶ

SPAKC5935PEZZ	–	Packing Case	—
SPAKF0026PEZZ	–	Packing Pad	—
SPAKP0056PEZZ	–	Polystyrene Mat	—
SPAKX0309PEZZ	–	Packing Material	—
TLABK0002PEZZ	–	Number Card	—

20B-SCⒶ

SPAKC5934PEZZ	–	Packing Case	—
SPAKP0099PEZZ	–	Polystyrene Mat	—
SPAKX0373PEZZ	–	Packing Material	—
TLABK0002PEZZ	–	Number Card	—

—— End of PACKING PARTS ——

Ref. No.	Part No.	★	Description	Code

SUPPLIED ACCESSORIES

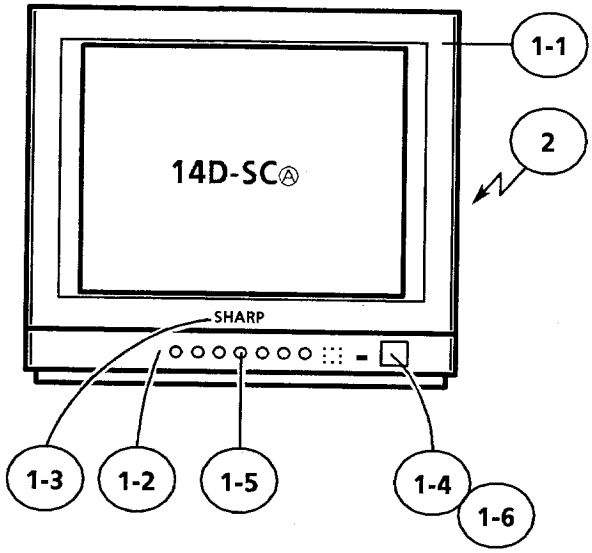
ACCESSORIES

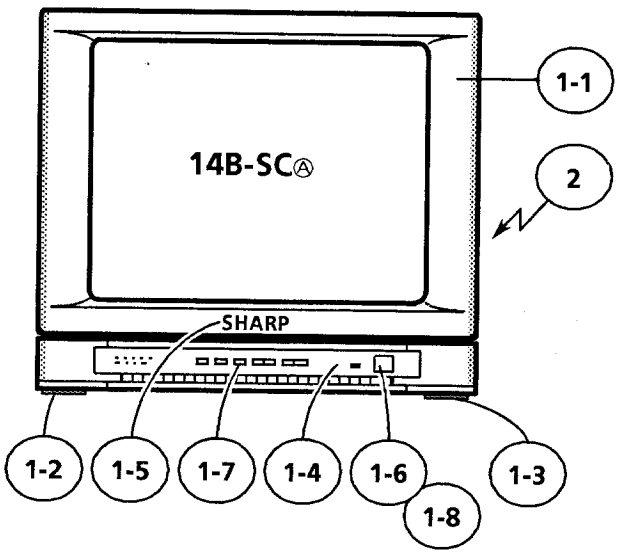
QANTR0018PEZZ	R	Rod Antenna, Dipole (14D-SCⒶ)	AQ
QANTR0014PEZZ	R	Rod Antenna (14B-SCⒶ, 20B-SCⒶ)	AV
QPLGJ0113CEZZ	J	Antenna Plug, 75 – 300Ω (14D-SCⒶ)	AG
QTANJ0005PEZZ	R	Antenna Plug, 75 – 300Ω (14B-SCⒶ, 20B-SCⒶ)	AM
RRMCG1076PESA	R	Infrared Remote Control Unit (14D-SCⒶ)	AY
RRMCG0833PESA	R	Infrared Remote Control Unit (14B-SCⒶ, 20B-SCⒶ)	AX
TiNS-5496PEZZ	R	Operation Manual (14D-SCⒶ)	AF
TiNS-5488PEZZ	R	Operation Manual (14B-SCⒶ)	AF
TiNS-5487PEZZ	R	Operation Manual (20B-SCⒶ)	AF

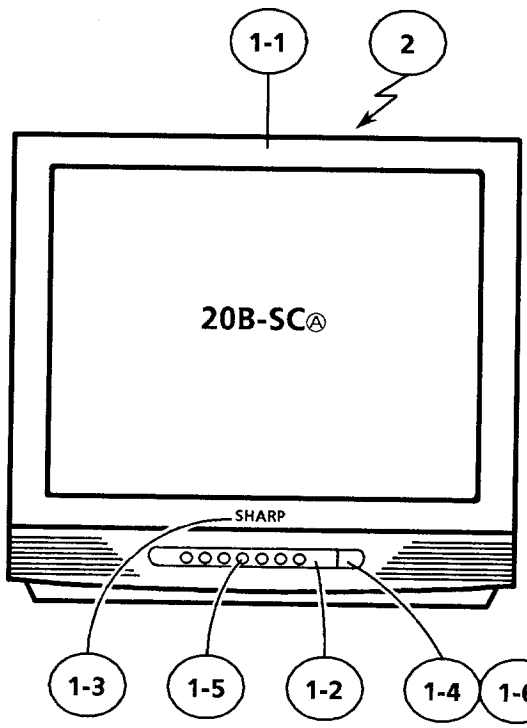
ACCESSORIES (*NOT REPLACEMENT ITEM*)

TCADZ0021PEZZ	–	(14D-SCⒶ)	—
TMAPC3931PEZZ	–	Service Map (14D-SCⒶ)	—
TMAPC3930PEZZ	–	Service Map (14B-SCⒶ)	—
TMAPC3929PEZZ	–	Service Map (20B-SCⒶ)	—
UBATU0023GEZZ	–	Dry Batteries, Size AAA (2 pcs.)	—

—— End of SUPPLIED ACCESSORIES ——







Ref. No.	Part No.	★	Description	Code

CABINET PARTS

MODEL 14D-SCⒶ

1	CCABA2204WEV0	R	Cabinet Ass'y, Front	BC
1-1	*Not available*	–	Cabinet, Front	—
1-2	GMADT0144PESA	R	Window Cover	AN
1-3	HBDGB3110CESA	J	Badge, "SHARP"	AG
1-4	JBTN-0152PESA	R	Button, Power	AD
1-5	JBTN-0116PESA	R	Buttons, Up/Down Controls	AG
1-6	MSPRC0008PEFW	R	Spring, Power Button	AB
2	CCABB2167WEV0	R	Cabinet Ass'y, Rear	AX

MODEL 14B-SCⒶ

1	CCABA2136WEV4	R	Cabinet Ass'y, Front	BF
1-1	*Not available*	–	Cabinet, Front	—
1-2	GLEGP9007PESA	R	Leg (Left)	AF
1-3	GLEGP9008PESA	R	Leg (Right)	AF
1-4	GMADT0071PESA	R	Window Cover	AN
1-5	HBDGB0014PESA	R	Badge, "SHARP"	AE
1-6	JBTN-0084PESA	R	Button, Power	AD
1-7	JBTN-0085PESA	R	Buttons, Up/Down Controls	AF
1-8	MSPRC0008PEFW	R	Spring, Power Button	AB
2	GCABB2179PEKA	R	Cabinet, Rear	AY

MODEL 20B-SCⒶ

1	CCABA2172WEV0	R	Cabinet Ass'y, Front (with Speaker x 2 pcs)	BH
1-1	*Not available*	–	Cabinet, Front	—
1-2	GMADT0097PESA	R	Window Cover	AL
1-3	HBDGB0015PESA	R	Badge, "SHARP"	AE
1-4	JBTN-0102PESA	R	Button, Power	AD
1-5	JBTN-0103PESA	R	Buttons, Ch./Vol.	AE
1-6	MSPRC0015PEFW	J	Spring, Power Button	AC
2	CCABB2154WEV0	R	Cabinet Ass'y, Rear	BE

—— End of CABINET PARTS ——

14D-SCⒶ, 14B-SCⒶ,
20B-SCⒶ

SHARP

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